Nursing: Health Education and Improving Patient Self-Management

Barbara Sassen

Springer

Nursing: Health Education and Improving Patient Self-Management

Barbara Sassen

Nursing: Health Education and Improving Patient Self-Management

Springer

Barbara Sassen
University of Applied Sciences
Utrecht
The Netherlands

Original Dutch edition ‘Gezondheidsbevordering en zelfmanagement door verpleegkundigen en verpleegkundig specialisten’ was published by BSL, AK Houten, 2014

ISBN 978-3-319-51768-1 ISBN 978-3-319-51769-8 (eBook)
DOI 10.1007/978-3-319-51769-8

Library of Congress Control Number: 2017954298

Printed on acid-free paper

This Springer imprint is published by Springer Nature
The registered company is Springer International Publishing AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

In the clouds, for Josephine. Let perpetual light shine, for my brother Richard

Preface

In our society today, we see that more and more patients seek support in dealing with their (chronic) health problems. This is a result of an increase in the number of people with at least one chronic health problem, and local and (inter)national health policy. Trends that underline the importance of prevention are the increase in co-morbidity, the further increase in the number of empowered patients, and the type of care, with its technological developments. Most patients with a chronic health problem are treated in the community. This gives the patient a greater role in understanding and dealing with his health problem.

Promoting health and healthy behavior are central and not the disease. Many patients can improve their health by managing their chronic health problem and by expanding their healthy behavior. Patients with chronic health problems are expected, with the support of professionals, to work on their self-management and monitor and manage their own health. But the patient often feels overwhelmed by the complexity of his health problem, finds it difficult to manage his own self-management behavior. This can result in patients being taken (back) into hospitals, the desired results of care and treatment not being achieved and pressure on primary health care persisting. The patient's self-management does not reach the desired level.

Successful self-management of the patient improves both the health status of the patient and his well-being and experienced quality of life. Successful self-management also improves adherence, patient participation, shared decision-making, and cohesion and functioning of the social network of the patient. And of course, there are successful self-management benefits for the nursing professionals themselves, the health care system, and society as a whole. If the treatment concept of nursing professionals is focused on shared decision-making and the promotion of self-management, this will change the treatment paradigm. Changing the patient's health and self-management behavior requires the nursing professionals to have a positive attitude and a personal understanding of the advantages and disadvantages associated with motivating patients. Changing the health and self-management behavior of the patient requires social support and resistance from the potentially more negative influences of health care colleagues and team members, in addition to dealing with barriers. The effectiveness of the promotion of health and self-management depends on the one hand on a motivated patient who wants to work on

his self-management, and on the other hand, a motivated nursing professional who sees it as his professional responsibility to support the patient in healthy behaviors and self-management.

Informing and advising the patient does not lead to the desired self-management. Within the allied health profession, there is a consensus on the importance of health promotion and the promotion of self-management. However, health professionals struggle to understand the underlying theoretical backgrounds of health promotion and the promotion of self-management, the right approaches, and how to evaluate the results. Intervention techniques have evolved and the didactic content of interventions has advanced to empowerment, patient participation, and promotion of patient self-management. Interventions aimed at disclosure lead to more knowledge of the patient, but not to better self-management behavior of the patient. Our knowledge about health problems, technical treatments, and pharmacology is huge, but stands in stark contrast to our knowledge about how we can best motivate patients with regard to self-management. Theory- and evidence-based practice for health promotion and self-management can have beneficial results. Nursing professionals can make an important contribution as they better understand how to change health and the self-management behavior if they facilitate and support the patient. The use of theory-based or best-practice interventions in health education and patients' self-management can improve allied health care.

The book in short. In Chap. 1 we will address the different approaches to health, because; what is health? Health indicators can provide an insight into the health status of the population, are the starting point for (epidemiological) research, constitute important patient outcomes for health promotion and self-management interventions, and are important for the understanding of national and international health policy. In Chap. 2, the determinants of health are central to health and health problems are analyzed in different health models. In the following chapters, the focus is on prevention, health promotion, and self-management. Chapter 3 deals prevention, and runs the description of universal care related to prevention, with the interfaces for nursing professionals. Foundations of prevention health protection, health promotion (linked to health education), and disease prevention (linked to patient education and promoting the patient's self-management) are described. Chapter 4 is about health promotion and health education. The intervention mapping protocol is the starting point for establishing nursing professionals-led interventions. Different methods and interventions describe how nursing professionals can support patients in a healthy lifestyle and change unhealthy behavior. In Chap. 5, the focus is on disease prevention, patient education, and self-management. Methods and interventions for optimizing the patient's self-management are described. Self-management and chronic health problems, the patient's social network, eHealth, and informed consent are parts of this chapter. Chap. 5 also includes skills training on how nursing professionals can improve the self-management of patient stepwise. Chap. 6 addresses the relationship among nursing, health promotion, and disease prevention. This specifically concerns nursing diagnoses,

interventions, and care results. This chapter also includes skills training directed at the role of the nursing professional in supporting the patient's self-management. The CanMeds are taken as a starting point.

Love to Ewout David and Beatrice,

Utrecht, The Netherlands Barbara Sassen, Ph.D., R.N.

CanMeds

Health promotion and disease prevention will become increasingly important in the nursing care. The occupational structure of the nursing profession, with a vertical division into nursing professional and the nursing professional specialist, this dichotomy in the care provided, is aimed at continuity, efficiency, and increasing the quality of nursing care. The nursing professional as a care professional should develop more knowledge and more (communication) skills with regard to prevention, changing lifestyle and self-management. The Canadian Medical Education Directions for Specialists (CanMeds) model offers a view on the competencies in seven areas. The skilled professional works from the core of these areas of competence and promotes the patient's self-management. Professionalism, communication, collaboration, knowledge development and sharing, social responsibility, and organization form the input for effectively promoting the patient's self-management. For result-oriented prevention, health promotion, and self-management, the nursing professional and the nursing professional specialist follow the continuum of clinical reasoning and problem recognition from risk assessment to intervention through early detection and monitoring. For each area of competence or skill, we describe below the interfaces with prevention, health promotion, and self-management.

As a health promoter, what is done by the nursing professional in terms of (health) behavior and health? The nursing professional promotes the health of patients by supporting self-management. The people in the social network play a role in this. The nursing professional focuses on people at a high risk of health problems and influences the lifestyle and the (health or self-management) behavior of people. The nursing professional has knowledge of epidemiology, prevention, health education, health determinants, and social–cognitive determinants. The nursing professional knows the principles of self-management, has an insight into the complexity of life style and (health or self-management) behavior and knows ways of motivating patients to other, healthier behavior. The nursing professional is familiar with how healthier behavior and self-management can be stimulated. The nursing professional is aware of views on health and the influence of culture on health. The nursing professional aims for early detection and risk assessment and can perform interventions focused on individual and collective prevention, or can participate in such interventions.

Working as a health care provider, the nursing professional focuses on strengthening the patient's self-management in the social context. This includes

patient-centered health education and patient education by the nursing professional. The process of clinical reasoning is followed by patient-focused risk assessment, through early detection and intervention, to troubleshooting and monitoring, prevention, health promotion, and self-management. This includes the nursing professional performing reserved acts and requires informed consent. The health care provider has knowledge of the principles of self-management and coping styles and the theoretical models behind nursing interventions for prevention, health promotion, and self-management. The health care provider should establish nursing care in such a way that the both the patient and the patient's family can perform self-management. The health care provider should be able to assess risks, detect problems at an early stage, choose interventions, implement, monitor, and evaluate results in the four areas of human functioning with regard to prevention, health promotion, and self-management. The nursing professional should work according to guidelines. Nursing care is provided based on the desires, needs, capacity, and privacy of the patient with regard to health promotion and self-management.

In the area of communication, the nursing professional is focused on making a good estimate of the patient's needs. The nursing professional communicates in a way that leads to effective, results-oriented health education and self-management. The patient is always invited to participate and care is chosen based on the concept of shared decision-making. Chosen based on evidence, the nursing professional uses technical applications and ICT to support patients' health education and self-management. The communicator has the knowledge and the right skills for behavioral influence and empowerment. The communicator is well-equipped to perform the complex processes of motivating patients and this transcends the basic communication skills. The communicator can motivate the patient to implement different, healthier behavior and encourage him to adequately perform self-management behavior.

As co-operation partner, the nursing professional co-operates not only with the patient and his relatives, but also with other health care providers. The nursing professional shares knowledge and evidence-based insights and is an important partner for effective, results-oriented health education and self-management.

As a reflective, evidence-based working professional, the nursing professional is focused on effective and efficient health education and self-management. The nursing professional uses health education interventions and self-management interventions based on the results of scientific research and applies it within patient care.

As organizer, the nursing professional is focused on the meso and macro (economic) aspects related to patient care and feels partly responsible for performing optimal care within the framework of the government's health policy. The nursing professional coordinates the care that is needed around health education and self-management, sets priorities, facilitates, and prevents fragmentation. The nursing professional uses education and communication technologies, such as eHealth (remote care and monitoring and support of self-management). The nursing professional is able to apply protocols with regard to prevention, health promotion, health education, and self-management.

In the area of promoting quality of care, the nursing professional is focused on monitoring, measuring, and screening with the aim of optimizing quality. Quality of care has a clear relationship with evidence-based practice. The nursing professional knows her professional abilities and is able to promote them to others as far as they relate to health promotion and self-management. The nursing professional is responsible and has an assertive attitude toward prevention, health education, and self-management. The nursing professional knows guidelines, standards, and protocols with regard to health education and self-management, and works in a multidisciplinary team, in a results-oriented, effective, and efficient way.

The nursing professional specialist is an expert in a stand-alone treatment relationship with patients, within the legally recognized specialties. The nursing professional specialist offers the patient care and cure within the continuity and quality of integrated nursing care and medical treatment. For the patient, self-management and quality of life are central. The nursing professional specialist invites the patient to actively participate in care and cure, with specific attention to shared decision-making. The nursing professional specialist plays a pioneering role and innovates in the field of prevention, health promotion, and self-management. The nursing professional specialist works in an evidence-based manner within the complexity of patient care. The nursing professional specialist has knowledge of the principles of self-management and can perform interventions with a link to prevention, health promotion, and self-management. The nursing professional specialist ensures effective communication with the patient and is able to implement and make use of health education and communication technology. The nursing professional specialist implements evidence-based practice and outcomes with regard to health promotion, health education, and self-management, and translates this to patient care. The nursing professional specialist can interpret results of epidemiological studies and has an understanding of the implications for the policy of health care organizations. All of this means that the nursing professional specialist can develop, implement, and evaluate based on the results of applied science, new health-based or self-management interventions. The nursing professional specialist devotes specific attention to hard-to-reach groups and hard-to-change lifestyles and (health) behavior. In the light of informed consent, the nursing professional specialist can act effectively and efficiently.

Contents

1 Health, Health Indicators, and Public Health 1
1.1 What Is Health? Using the ICF. 2
1.2 International Classification of Functioning, Disability, and Health 7
1.3 Epidemiology and Epidemiological Research 8
1.4 Health Indicators, Mortality, Morbidity, and Multimorbidity 13
1.4.1 Mortality 13
1.4.2 Life Expectancy 14
1.4.3 Perceived Health 17
1.4.4 Years of Life Lost 18
1.4.5 Morbidity 18
1.4.6 Medical Consumption. 19
1.4.7 Multimorbidity 20
1.4.8 Health Inequalities 21
References 23

2 Health, Health Risks, and Mapping Public Health 25
2.1 Lalonde Report 25
2.2 Endogenous, Personal Health Determinant 30
2.2.1 Endogenous Health Determinant: Genetic, Hereditary Factors. 30
2.2.2 Endogenous, Personal Health Determinant: Acquired Properties 32
2.3 Health Determinants Lifestyle and Behavior 35
2.4 External Environment: Health Determinant Physical Environment 39
2.5 External Environment: Health Determinant Social Environment. . . 42
2.6 Exogenous Health Determinant: Medical Care and Prevention 45
References 47

3 Prevention Within the Nursing Profession 49
3.1 Universal, Primary Prevention 51

3.2 Selective, Indicated, Secondary Prevention 52
3.2.1 Screening 53
3.2.2 Patients' Delay and Doctors' Delay 54
3.2.3 Case-Finding 54
3.3 Care-Related, Tertiary Prevention 56
3.4 Classifications of Prevention 57
3.5 Levels of Prevention, Individual, and Collective Prevention 60
3.6 Prevention and the Complexity of Health Behavior 61
3.7 Prevention: Health Protection, Health Promotion, and Disease Prevention 63
3.8 Health Protection 64
3.9 Health Promotion and Health Education: In Short 65
3.10 Health Education 70
3.11 Disease Prevention, Patient Education, and Self-Management: In Short 72
3.12 Patient Education 73
3.13 Self-management 73
3.14 Prevention: Targets 74
3.15 The Intertwining of Prevention and Care 76
References 78

4 Health Promotion and Health Education: Improving Patients' Health Status 81
4.1 Health Promotion and Health Education: What Is the Difference? . 82
4.2 Intentional Health Education and Facilitating Health Education . . . 83
4.3 Intervention Mapping: Planning Model Intentional Health Education 85
4.4 Conditions and Principles of Intervention Mapping 87
4.5 Intervention Mapping Step 1: Needs Assessment 88
4.6 Intervention Mapping Step 1: Analysis of Lifestyle and Behavior 92
4.6.1 Explaining (Health) Behavior 94
4.6.2 Theory of Planned Behavior: Behavior and Intention 96
4.6.3 Theory of Planned Behavior: Barriers 96
4.6.4 Theory of Planned Behavior: Attitudes 97
4.6.5 Theory of Planned Behavior: Subjective Norms or Social Influence 100
4.6.6 Theory of Planned Behavior: Perceived Behavioral Control and Self-Efficacy 101
4.7 Intervention Mapping Step 2: Defining Performance and Change Objectives 103
4.7.1 Objectives 103
4.7.2 Performance Objectives 104
4.7.3 Change Objectives 105

4.8 Intervention Mapping Step 3: Methods and Theories for Change Intention and Behavior . . . 107
4.8.1 Usefull Methods for Changing (Health) Behavior, Risk-Perception . . . 108
4.8.2 Usefull Methods for Changing (Health) Behavior, Decisional Balance . . . 109
4.8.3 Usefull Methods for Changing (Health) Behavior, Handling Social Influence . . . 110
4.8.4 Usefull Methods for Changing (Health) Behavior, Guided Practice . . . 111
4.8.5 Usefull Methods for Changing (Health) Behavior, Action Planning . . . 112
4.8.6 Useful Methods for Changing (Health) Behavior, Coping Planning . . . 112
4.9 Intervention Mapping Step 4: Designing the Health Intervention . . 113
4.10 Intervention Mapping Step 4: Model of Behavior Change . . . 115
4.10.1 Model of Behavior Change: Contact the Patient, Risk Perception . . . 116
4.10.2 Model of Behavior Change: Changing the Social–Cognitive Determinant Attitudes . . . 117
4.10.3 Model of Behavior Change: Changing the Social–Cognitive Determinants Subjective Norms and Social Influence . . . 120
4.10.4 Model of Behavior Change: Changing the Social–Cognitive Determinants Perceived Behavioral Control and Self-Efficacy . . . 122
4.10.5 Model of Behavior Change: Achieving Changes in (Health) Behavior . . . 124
4.10.6 Model of Behavior Change: Sustaining Changes in (Health) Behavior . . . 126
4.11 Intervention Mapping Step 4: Designing the Health-Intervention – Stages of Change . . . 128
4.12 Intervention Mapping Step 5: Implementation Plan . . . 132
4.13 Intervention Mapping Step 6: Evaluation Plan . . . 135
References . . . 137

5 Patient Education and Improving Patients' Self-Management . . . 141
5.1 Disease Prevention, Patient Education, and Self-Management . . . 144
5.2 Self-Management . . . 146
5.3 Chronic Care Model . . . 148
5.4 Stepped Care . . . 149
5.5 Self-Management: Prerequisites . . . 150
5.6 Barriers in Promoting Patients' Self-Management: Provision of Information . . . 152

5.7 Barriers in Promoting Patients' Self-Management: Communication Between the Patient and the Nursing Professional 157
5.8 Effects of Promoting Self-Management: Patient Satisfaction 160
5.9 Effects of Promoting Self-Management: Concordance 161
5.9.1 Nonconcordance: Characteristics 164
5.10 Effects of Promoting Self-Management: Understanding and Remembering 168
5.11 Effects of Promoting Self-Management: Patients' Well-Being 171
5.12 Effects of Promoting Self-Management: Patient Participation. 173
5.13 Effects of Promoting Self-Management: Shared Decision-Making . . . 175
5.14 Effects of Promoting Self-Management: Improved Self-Management. 177
5.15 Intervention Mapping for the Development of Self-Management Interventions 178
5.15.1 Intervention Mapping, Step 1: Assessing the Health Problem. 179
5.15.2 Intervention Mapping, Step 2: Performance and Change Objectives to Improve Self-Management 180
5.15.3 Intervention Mapping, Step 3: Methods and Theories to Improve Self-Management 180
5.15.4 Intervention Mapping, Step 3: Methods and the Patient's Phase of Life 181
5.15.5 Intervention Mapping, Step 4: Design of Self-Management Intervention 182
5.16 Intervention Mapping, Step 4: Model Supporting Patients' Self-Management 182
5.16.1 Model Supporting Patient Self-Management: Intake and Risk Perception 183
5.16.2 Model Supporting Patient Self-Management: Attitudinal Change 184
5.16.3 Model Supporting Patient Self-Management: Resisting Social Pressure and Seeking Social Support. 186
5.16.4 Model Supporting Patient Self-Management: Perceived Behavioral Control and Self-Efficacy 188
5.16.5 Model Supporting Patient Self-Management: Planning Behavior Change 188
5.16.6 Model Supporting Patient Self-Management: Behavior Change and Handling Barriers 189
5.16.7 Model Supporting Patient Self-Management: Sustaining Behavior Change. 190
5.17 Intervention Mapping, Step 4: Motivational Interviewing 191
5.18 Intervention Mapping, Step 4: Transtheoretical Model, Stages of Change 195
5.19 Intervention Mapping, Step 4: Patient Participation Model Improving the Self-Management in Patients with Chronic, Major Health Problems. 197

5.20 Intervention Mapping, Step 4: 5As . . . 201
5.21 Intervention Mapping, Step 4: Ask-Tell-Ask . . . 202
5.22 Intervention Mapping, Step 4: Supportive Social Relations . . . 202
5.23 Intervention Mapping, Step 4: Informed Consent . . . 204
5.24 Intervention Mapping, Step 4: eHealth . . . 206
5.25 Intervention Mapping, Step 5: Implementation Plan Self-Management Intervention . . . 211
5.25.1 Communication Process: Source . . . 211
5.25.2 Communication Process: Message . . . 212
5.25.3 Communication Process: Message—Patients' Recalling and Participation . . . 212
5.25.4 Communication Process: Strategy—Individual or Group Education . . . 214
5.25.5 Communication Process: Strategy—Leaflets and Brochures . . . 215
5.25.6 Communication Process: Receiver . . . 216
5.26 Intervention Mapping, Step 5: Implementation Plan—Facilitation of the Self-Management Intervention . . . 217
5.27 Intervention Mapping, Step 6: Evaluation Plan . . . 219
5.28 Training: Model Supporting Patient Self-Management . . . 220
5.28.1 Training 1: Step Supporting Patient Self-Management—Intake and Risk Perception . . . 221
5.28.2 Training 2: Step Supporting Patient Self-Management—Attitudinal Change . . . 222
5.28.3 Training 3: Step Supporting Patient Self-Management—Resisting Social Pressure and Seeking Social Support . . . 224
5.28.4 Training 4: Step Supporting Patient Self-Management—Perceived Behavioral Control and Self-Efficacy . . . 226
5.28.5 Training 5: Step Supporting Patient Self-Management—Planning Behavior Change Using Action Planning . . . 227
5.28.6 Training 6: Step Supporting Patient Self-Management—Behavior Change and Handling Barriers Using Coping Planning . . . 229
5.28.7 Training 7: Step Supporting Patient Self-Management—Sustaining Behavior Change . . . 230
References . . . 232

6 The Nursing Professional as a Health Coach . . . 235
6.1 Nursing Process, and Health Promotion and Disease Prevention . . . 237
6.1.1 Nursing Assessment, and Health Promotion and Disease Prevention . . . 238
6.1.2 Nursing Diagnosis, and Health Promotion and Disease Prevention . . . 239
6.1.3 Nursing Planning Phase, and Health Promotion and Disease Prevention . . . 240
6.1.4 Nursing Implementation Phase, and Health Promotion and Disease Prevention . . . 240

6.1.5 Nursing Evaluation Phase and Health Promotion and Disease Prevention 241
6.2 Nursing Diagnoses Aimed at Promoting Patients' Self-Management 241
6.3 Health Patterns Aimed at Promoting Patients' Self-Management . . . 242
6.4 Nursing Interventions Aimed at Promoting Patients' Self-Management. 245
6.5 Nursing Classification Systems, and Health and Patient Education. . . 246
6.6 Nursing Interventions Aimed at Promoting Patients' Self-Management, Using Intervention Mapping 247
6.7 Implementing Nursing Interventions Aimed at Promoting Patients' Self-Management 248
6.7.1 Nursing Professional as a Health Coach: Introduction. 249
6.7.2 Nursing Professional as a Health Coach: Risk Perception with Regard to Patients' Self-Management 250
6.7.3 Nursing Professional as a Health Coach: Changing Attitudes with Regard to Patients' Self-Management. 250
6.7.4 Nursing Professional as a Health Coach: Resisting Social Pressure and Seeking Support with Regard to Patient Self-Management 251
6.7.5 Nursing Professional as a Health Coach: Perceived Behavior Control and Self-Efficacy in Regard Patient Self-Management 252
6.7.6 Nursing Professional as a Health Coach: Planning Behavior Change with Regard to Patients' Self-Management Using Action Planning 252
6.7.7 Nursing Professional as a Health Coach: Changing Behavior with Regard to Patients' Self-Management Using Coping Planning. 253
6.7.8 Nursing Professional as a Health Coach: Sustaining Behavior Change with Regard to Improving Patients' Self-Management 253
6.8 Nursing Outcomes for Patient Self-Management. 254
6.9 Training Nursing Professional as a Health Coach: with Regard to Improving Patients' Self-Management 255
6.9.1 Training 1a: Health Coach—Introduction—Are You a Health Coach? 256
6.9.2 Training 1b: Health Coach—Risk Perception with Regard to Patient Self-Management. 256
6.9.3 Training 2: Health Coach—Attitudinal Change with Regard to Patients' Self-Management 257
6.9.4 Training 3: Health Coach—Resisting Social Pressure and Seeking Support with Regard to Patients' Self-Management 258

6.9.5 Training 4: Health Coach—Perceived Behavior Control and Self-Efficacy with Regard to Patients' Self-Management . . 259
6.9.6 Training 5: Health Coach—Planning Behavior Change with Regard to Patients' Self-Management, Using Action Planning 261
6.9.7 Training 6: Health Coach—Changing Behavior with Regard to Patients' Self-Management, Using Coping Planning 261
6.9.8 Training 7: Health Coach—Sustaining Behavior Change with Regard to Improving Patients' Self-Management 263
References 264

Health, Health Indicators, and Public Health

1

This chapter focuses on health. It is about how you can define health and what views on health are important. Because what is health anyway? There are a number of visions of health. The World Health Organization (WHO) defined health and took this as a starting point for its health policy. Various viewpoints give you the opportunity to formulate your own vision of health. Your own vision of health determines your vision of your professional nursing practice. Your vision of health is the foundation of your nursing care. This chapter also deals with how to measure health. We are going to look at the principles of epidemiology. Health indicators show you how "healthy" the population is. Health indicators give you a clear view of important health problems and of public health. For nursing professionals, an insight into the state of health of people is the starting point for prevention and targeted care.

In this chapter we answer the question: what is health? We describe in Sect. 1 the different views on health: the medical, monocausal vision, the biological vision, the psychological and social visions, the humane, multicausal vision, and the dynamic vision. We also address the International Classification of Functioning, Disability, and Health (ICF). After this, we all look at important health indicators (among others, mortality, life expectancy, quality-adjusted life-years (QALYs) and disability-adjusted life-years (DALYs), morbidity, multimorbidity, and health differences), to see inside public health.

- **Goals**. The WHO has as its main objective to promote health at an international level and to reduce health problems. Also, the WHO has the aim of reducing health inequalities within and between countries. The WHO's international health policy continually responds to changes in health problems worldwide, but also to the situations affecting health (www.who.int)
- **Is health important?** Health is the most important thing in life. The first major source of concern are financial problems, and health problems come second. In half of the countries surveyed, more than a third of the population mentioned that disease, sickness, poor quality of care or other matters relating to health are an important problem (WHO 2012)

B. Sassen, *Nursing: Health Education and Improving Patient Self-Management*,
DOI 10.1007/978-3-319-51769-8_1

1.1 What Is Health? Using the ICF

What is health anyway? The attention we give to health now was not common in earlier days. In the concept of health and in the way in which we looked at health, disease and curing people prevailed for a long time. Medicine was seen to be the most appropriate way of improving people's state of health. But medicine was shown not to be the solution to all kinds of health problems. There was another way of looking at health and disease: promoting health received more attention. Attention was given to promoting health, by optimizing the chances of health and minimizing or totally eliminating the effects of unfavorable factors on health. The limitations of medicine were becoming more and more visible. The starting point for health sciences is health and it recognizes the importance of promoting health.

Health includes all kinds of aspects that can vary in time and place. Health has appreciative, standardization, and cultural aspects. In everyday parlance, for example, the concept of health in an appreciative or even standardized sense is applied. Healthy is seen as a synonym for "good," as in "use your common sense." It sometimes seems to replace health standards and precepts: you must do something or not (for your health). Also, culture affects the way in which health is experienced. Within the various cultures there are different accents on the sense of health. It is true that—apart from these cultural accents—health is generally considered important.

- **Past**. In the past, the WHO focused on health problems caused by exogenous factors, such as bacteria and parasites. Solutions to improving hygiene, the quality of drinking water, and adequate medication were sought. The population was not yet involved in the promotion of health. Vaccination and immunization programs were widely implemented and these were successful (www.who.int)

Medical, monocausal vision of health. Dealing with health and disease has long been exclusively a matter for doctors. Medics dealt with sick people and they sought to heal the sick. From the classic, medical approach to health, health is regarded as the absence of disease and body defects. According to this medical approach, everyone is healthy who is not sick. This is a monocausal explanation of health and disease. In this view of the genesis of disease, disease has only one cause. This view has existed since the discovery of micro-organisms as the cause of illness. When the cause is identified, then a person is sick. If such a cause is not identifiable, there is health. This is also known as the professional, medical approach to health.

For a long time, for nursing professionals too, this was the main view of health, but not any longer. For many health problems that we face in our time (such as cancer and damage to the blood vessels), this monocausal approach shows deficits. There are a number of reasons why the professional, medical approach is an incomplete representation of the present reality of health and disease. One reason is that more than one factor may affect the development of a health problem; thus, the

health problem is not monocausal but multifactorial. A second reason is that current health problems develop insidiously, unseen, so that a clear transition from health to disease is not possible.

Professional, medical health is the absence of disease or body defects
Classic, monocausal view of health

According to the biological vision of health, there is constant adjustment of physiological processes and biochemical reactions in the body to external circumstances. These internal processes and biochemical reactions are kept constant by the body. Survival of the individual is determined by the extent to which the organism is capable of keeping his internal environment (for example, body temperature, acidity of the blood) within narrow limits and to keep it constant at ever-changing external conditions. We call this homeostasis. According to this biological, organic approach to health, a person is healthy if he is able to keep his internal environment constant under varying external conditions. Biological health can be accurately defined and is universally valid for every human being. Nursing professionals can determine the biological health of patients by certain acts, such as the measurement of the body temperature and blood glucose levels.

Biological health is the adaptation of the human body to external circumstances, maintaining homeostasis of physiological processes and biochemical reactions in the human body
Biological dimension of health

According to the psychological vision of health, health is defined as the capability of a person to achieve self-imposed goals in life. For the psychological view of health, it is important to feel mentally healthy and capable of meeting your own spiritual needs. A person is healthy when he feels mentally and spiritually optimal. A person is sick when he is not able to satisfy his mental and spiritual needs, because he cannot handle these needs. People who have a blemish or are sick, may feel and define themselves as healthy, according to this approach. The psychological approach emphasizes the mental and spiritual dimensions. The approach is very personal and is therefore called the individual approach to health. Nursing professionals can gain insight in the psychological health of the patient by observing and talking with patients.

According to the psychological vision, a person is healthy if he can achieve his self-imposed goals in life and fulfill his spiritual needs
Psychological dimension of health

According to the social vision of health, a person is healthy if he can perform his social roles in the society. A person is healthy if he upholds, within the social roles assigned to him, the values and standards in force in society. In this approach to health, social adjustment is central and the individual with his own needs and desires is subordinate. A person is sick if he is unable to adapt to and behave in accordance with the prevailing values and standards of its culture. Nursing professionals can highlight the social aspects of patients' health by paying attention to social functioning. For example, nursing professionals can ask whether the patient manages to take care of her children, or if she manages to go with a parent or child to the specialist, or if she is capable of combining a (busy) work situation with bringing up teenage children.

According to the social vision, a person is healthy if he can fulfill his social roles in society, in accordance with values and standards

Social view of health

- **WHO, Declaration of Alma-Ata**. With the Declaration of Alma-Ata, attention was focused on the concerted effort regarding the improvement of health in 34 countries. What were the issues? Improving health education and paying attention to the prevention of health problems, the promotion of healthy food, good mother and child care and good health care such as immunizations against infectious diseases, the treatment of diseases, and the prevention of injuries (http://www.who.int/publications/almaata_declaration_en.pdf)
- **Are health-related considerations important for the patient?** Health-related considerations of the patient may be culture-bound. From a medical perspective, the health problem is seen as a medical health problem that can be solved with a medical approach. For example, patients with high blood pressure use medicines and lower the salt content in their diet. From a balanced perspective, the health problem of high blood pressure is related to stress and they should resolve to take more rest. The patients' perspective on his own health, plays a role in the way he tackles the health problem.
- **WHO, primary health care**. Primary health care should protect and promote the health of the world's population. Basic primary health care is the key to achieving an acceptable level of health in all countries (www.who.int).

In addition to the medical view, with its monocausal approach to health, there is increasingly room for a multicausal, multifactorial view of health. This links the biological, psychological, and social visions of health. In 1948, the World Health

Organization defined health as: http://www.who.int/about/definition/en/print.html "A state of complete physical, mental and social well-being and not merely the absence of disease or physical defect." We call this the humane approach to health.

In this view of health, people are more than just a body, there is a much wider and more positive approach to health compared with the classic, medical approach. There is—apart from attention to purely physical factors—attention to psychological and social aspects of health. These dimensions on health reflect a holistic view of human beings. The humane approach to health is committed against the limitations of the classical, medical approach. But, the term "well-being" is difficult to interpret in this definition. Well-being as a concept is hard to define, and involves a value judgment. The interpretation of well-being is individually determined and depends on an individual's own values and standards. The WHO reformulated the definition of health (but the above definition is still the one that is mostly used), namely: "A dynamic state of complete physical, mental, spiritual and social well-being and not merely the absence of disease or infirmity." (WHO 1998) (http://www.who.int/bulletin/bulletin_board/83/ustun11051/en/)

According to the WHO, health is: "a state of complete physical, social and mental well-being and not merely the absence of disease or infirmity"

Multicausal, multifactorial view of health

The question is whether the WHO's view of health is useful for nursing professionals. The humane vision offers nursing professionals no clear criterion under which they can classify people as sick or healthy. The main reason for this is that complete physical, mental, and social well-being is impossible. This approach to health offers an insufficient basis for "distinguishing" between healthy and unhealthy people. However, the definition does give an insight into the quest and the targeting of health, and is therefore of great importance for the nursing profession. The WHO definition offers nursing professionals clear points of reference and the holistic view of human beings is now commonly the starting point within the nursing profession for good quality and responsible care (Fig. 1.1).

- In the **Ottawa Charter for Health Promotion (WHO 1986),** the goal was to create "Health for All by the year 2000." The emphasis is on health promotion and health education as: "the process of enabling people to increase control over and to improve their health." There are five important areas in the "Health for All-strategy": (1) developing health policy; (2) developing a physical and social environment that promotes health; (3) strengthening community action; (4) developing health skills in people to optimize the chances of health; (5) reorientation of health care facilities. http://www.who.int/healthpromotion/conferences/previous/ottawa/en/

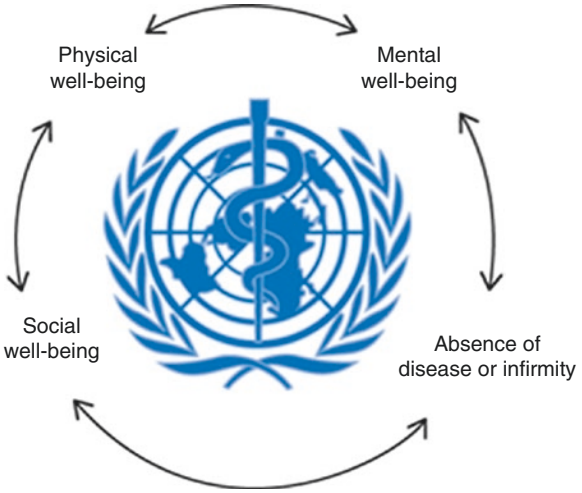

Fig. 1.1 Health according to the World Health Organization

- We continue to search for a (better) vision of health.
- **In the Ottawa Charter (WHO** 1999**)** health is defined as: "a resource for everyday life, not the object of living." It is a positive concept emphasizing social and personal resources in addition to physical capabilities. And: "The fundamental conditions and resources for health are peace, shelter, education, food, income, a stable eco-system, sustainable resources, social justice and equity."
- **In the World Health Report 2003 Shaping the Future (WHO** 2003**)** is in the original http://www.who.int/whr/2003/overview/en/ definition of health ("a state of complete …") mentioned that: "health is both a goal in itself and a key development input towards other goals."

A final vision of health is the dynamic view, taking into account the aspect of changing health. This approach to health focuses on the adaptability of people and achieving a balance between man and his (external) environment. For health, beneficial influences of interest and threats play a role. People's health is threatened or promoted to a greater or lesser extent. This negative or positive influence may change or disappear. Positive influences are a condition for health, whereas negative influences have no use or a harmful effect on health.

Health is the ability of humans to adapt to psychological, social, and physical factors that influence a person. This adaptability to be the director in his own life and that he manages his own health. The health problem is not central, but instead human adaptability to changing factors and influences. The person would always have to adapt to changes, whether temporary or not, for psychological, social, and physical conditions. Further, the balance between load capacity and carrying capacity is important for health. The concept of "disease" will then be given the general sense of being "out of balance." The concept of "health" will then be given the general sense of being "in balance." According to the dynamic vision, a person is a

holistic unit and healthy as he is in balance with both himself and his external environment.

> According to the dynamic vision, a person is a holistic unit and is healthy when he is in balance with both himself and with his external environment, and by being adaptable and managing his own health

For nursing professionals, from the dynamic viewpoint of health, adaptability and self-management are important. Patients experience (both objectively and subjectively) a certain balance in load capacity and wear force between themselves as a holistic unit and positive and negative influences from the environment. A definition of health that is appropriate to the dynamic vision of health: health is not simply the absence of disease, it is something positive, a joyful attitude toward life, and a cheerful acceptance of the responsibilities that life puts upon the individual (Breslow 1999).

World health report 2013: research for universal coverage:

- Everyone should have access to health care, despite poverty. Health care – with full access to high-quality services for prevention and treatment – cannot be achieved without the scientific substantiation of effectiveness. Universal health coverage means that everyone has access to quality health care services, without having to take financial risks. This requires a strong, efficient, and well-run health care system, and prompts access to essential medicines and technologies and sufficient motivated health care workers. The challenge for most countries is how to improve to meet the growing health care needs with limited resources. http://www.who.int/whr/2013/report/en/
- A good health care system that gives priority to health would be people-oriented integrated care. This consists of informing and encouraging people to stay healthy and prevent disease and the early detection of health problems, so that people can be treated and/or can learn with limitations to go for treatment. Motivated health care workers would have to provide services that meet the needs of patients and that are offered based on the best available evidence, evidence-based practice. http://www.who.int/whr/2013/report/en/

1.2 International Classification of Functioning, Disability, and Health

The International Classification of Functioning, Disability, and Health (ICF) is the WHO framework for measuring health and health problems, both at an individual and at a population level. What is innovative about this framework is that disorders, limitations, and participation problems are part of the measurements of a health

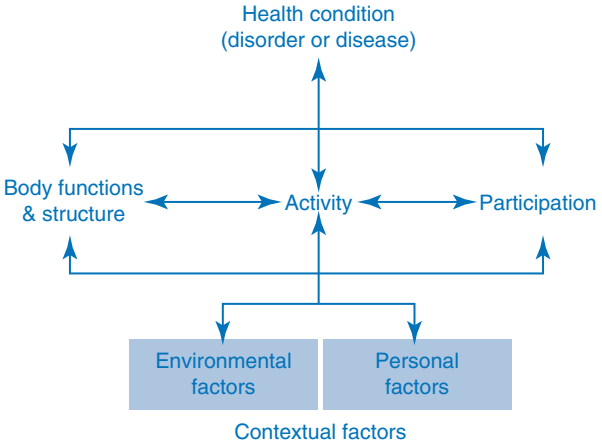

Fig. 1.2 International Classification of Functioning, Disability, and Health. Source: WHO (2002), p. 9. Reproduces by permission

problem. The "count" of disorders, limitations, and participation problems in identifying health problems is the goal of the ICF. The ICF is used as a planning tool for decision-making in health care. For example, if the number of patients with chronic health problems increases, then adjustments are necessary in the care and in the planning of medical care facilities. The goal is also to measure health outcomes and reporting and to analyze health interventions for statistical purposes. The WHO has developed a checklist to measure the functioning of the patient at an individual level. This checklist includes not only medical data, but also the social data of the patient, health status, activities, and participation (Fig. 1.2).

Using the ICF, we start from the health problem, and look at the disorders, constraints, and participation problems resulting from the health problem. The disorders may be related to bodily functions and anatomical features. The limitations may be related to the activities that the patient can perform. The participation problems include the extent to which the patient may participate. By interacting with the patient with a health problem, a nursing professional can focus on maintaining health or promoting health. Based on the ICF, the starting point of nursing care is the adaptability of the patient; thus, his ability to be the director of his own health and to optimize his self-management (within the given frameworks of possible disturbances, limitations or participation problems).

1.3 Epidemiology and Epidemiological Research

Health is a broad concept and may be seen from different viewpoints. But these views are not useful for the description of the health of an individual or a population. To describe the health of an individual or group, we use the term health status. The health status can be described using health indicators. Health indicators are the objective and measurable quantities of health and disease.

What are health indicators? How do you gain an insight into the state of health? Health indicators indicate which health problems have a frequent occurrence. Health indicators can give an insight into which health problems lead to high mortality levels. Health indicators can show clearly the kind of (chronic) health problems that are common in a population. Health indicators can also indicate if there are shifts in the occurrence of health problems. Health indicators show if a population is "healthy", and they offer, in sum, a view of public health. For nursing professionals, an insight into the state of health of a population is indispensable as a basis for both prevention and targeted care.

What is epidemiology? The field of study that deals with providing insight into the state of health of a population is epidemiology. Epidemiology provides an insight into the way in which morbidity and mortality patterns are distributed in a population. The distribution of diseases and death rates in a population is not equal. Some groups of the population have a greater chance of getting sick, having an accident, or dying than others.

First, in epidemiology, differences in the occurrence of health problems between and within populations are indicated. Epidemiology focuses on studying the occurrence of health problems among the population and on the links between the occurrence of health problems and the occurrence of other phenomena. In epidemiology, on the one hand, the diseases and conditions among the population are studied, and on the other hand, the phenomena that are related to there these diseases and conditions. An example: in epidemiology, the extent to which the health problem HIV is spread among the population may be studied, in addition to the phenomena that are related to the occurrence of this health problem, such as age, gender, and sexual behavior. Another example: in epidemiology, cardiovascular health problems and the extent to which cardiovascular risk factors (high blood pressure, abdominal obesity and elevated cholesterol and glucose values in the blood) are seen in a specific age group may be studied, and if there are links with the specific movement behavior of humans (physical activity and physical fitness).

Epidemiology focuses on the occurrence of health problems and on the links between health problems and the occurrence of factors related to the health problem

Etiological, diagnostic, and prognostic factors

What can give an indication of health problems? By looking at the relationship between the occurrence of a health problem and the phenomena, epidemiology searches for etiologic, prognostic or diagnostic factors (Bouter and Van Dongen 2000).

Etiological factors are important in the development of a health problem and may be seen in advance of the development of a disease. An example of an etiological factor is an inherited predisposition to high blood pressure or elevated cholesterol, or high blood glucose levels in the blood.

Prognostic factors induce an already present health problem to worsen or stop, and have an influence on the course of the condition. An example of a prognostic factor is the impact of abdominal obesity on type 2 diabetes; if abdominal obesity decreases, this probably has a convenient impact on type 2 diabetes. Another example is risky behavior such as smoking by COPD patients; if the risky behavior is limited or stopped, the COPD-related complaints are probably reduced. In addition, environmental influences may affect the course of a disease, for example, the emissions from industries and the emergence or worsening of lung problems.

Diagnostic factors elucidate whether there is a particular health problem. Based on these factors, it is possible to detect a disease. Examples of diagnostic factors are a change in birthmarks that may indicate skin cancer and the growth of foreign body cells in the cervix.

In epidemiology, the distribution of diseases and disorders in a population is studied: who are sick and what is the health problem? Are there any detectable (etiological, prognostic, and diagnostic) factors that have any relation to this disease and condition? These (etiological, prognostic, and diagnostic) factors offer possible targets for improving health, for the prevention or reduction of the (effects of the) condition or disease.

What is epidemiological research? An example of epidemiological research is examining the relationship between the movement behavior of people and cardiovascular risk factors and (eventually) of cardiovascular diseases and/or diabetes type 2. Another example is to examine the relationship between certain nutritional habits (such as vegetable and fruit consumption, fat intake) and the occurrence of colorectal cancer.

In epidemiological research, the starting point is a specific cohort. A cohort is a group of people who can accurately be described. This cohort is followed during undertaking of the epidemiological research, from the beginning until the end of the research period. In this cohort of people, researchers try to detect for each individual person the presence or absence of the disease. For example, the researchers try to detect which members of the cohort have cardiovascular diseases, and which have no cardiovascular disease. Also, epidemiological research searches for phenomena (assumed to be) related to the illness. For example, in the research of motion behavior, food and lifestyle habits are accurately mapped. The aim of epidemiological research is thus to detect people in whom the disorder is present and to link this with the presence of certain phenomena (Fig. 1.3).

By using epidemiological research, researchers try to detect significant associations between the health problem and the detected (risk) factors. What does that mean: a significant association between the health problem and (risk) factors? In epidemiology, the occurrence of a particular health problem among the population is studied. The health problem (e.g., cardiovascular diseases or diabetes) is the starting point for epidemiological research. The researchers determine the frequency (rate of occurrence of the disease) in the cohort. They count how many people (in a certain age group) have the health problem. Then, they determine the factors related to the health problem (such as gender, age, kinesiology, and nutritional behavior) and try to determine if there is a relationship between the health problem and (risk)

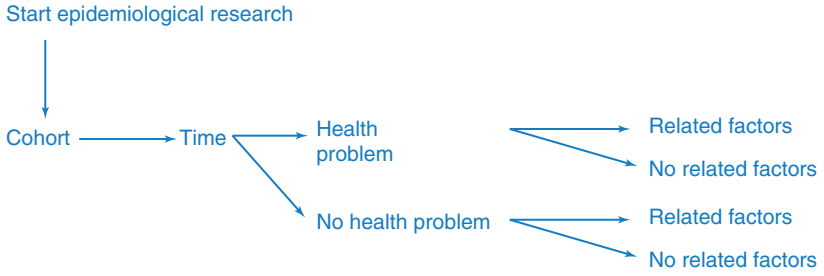

Fig. 1.3 Schematic representation of epidemiological research. According to: Bouter and Van Dongen (2000)

factors. A significant association indicates that there is relationship between the (risk) factors and the health problem.

For example, researchers aim to show a significant association between having cardiovascular risk factors (i.e., high blood pressure) and physical (in-)activity. If they find a significant association between having high blood pressure and physical inactivity, and the research showed that people who have an inactive lifestyle are also shown to have high blood pressure levels, then this is an indication for a significant association. The data found in this way indicate that the relationship between the (risk) factors and the health problem is not based on chance. It is a statistical, mathematical measurement. By carrying out epidemiological research we can try to understand the health status of a defined part of the population. Epidemiological studies may demonstrate previously unknown connections, for example, epidemiological research on the relationship between moving and feeding behavior in childhood and the development of cardiovascular diseases or cancer later in life.

In epidemiological research, at what level are measurements taken? In epidemiological research, measurements of individual people are taken. These measurements are carried out on what is called the individual level. At an individual level, it is determined whether the diseases, disorders, symptoms, and conditions, and the related (risk) factors are present. Because the purpose of epidemiological research is to make statements at the level of the cohort, conclusions are drawn at the group and/or the population level. Thus, all measurements are made at an individual level, to be able to draw conclusions at a group or population level. Measurements at an individual level (is the health problem present or not; are disease-related factors present or not) are merely the means of making decisions at a group and/or a population level. That is, the epidemiology focuses on studying health problems of groups or populations.

What is the difference between a group and a population? The main reason for measuring health and disease in a population is to obtain an evaluation of the health status of the population. Research on the health status of the population can be run at a population level or at a group level. If we want to know how the entire (for example, the Dutch) population assesses its own health, then we do research at the population level. The aim of this research is to assess the health of the entire Dutch population. Research at a population level provides insight into public health. If the

purpose of epidemiological research is to find out whether certain groups are more susceptible to certain health problems (such as depression or anxiety disorders) than other groups, then research is done at a group level. Research at a group level also provides specific insights into certain age groups. For example, do children aged 4 to 11 years have unintentional injuries and are seen in the consultation office more often than another group (for example, children aged 12 to 18 years)? With this form of epidemiological research, the aim is to focus on a defined group in the population. But by measuring groups (for example, age groups 0–25, 26–50, and up 50) to compare physical activity levels, we can also comment on the population (taking all the age groups together), on society, and on public health.

Is epidemiological research performed again and again, or can it be done differently? *What are health statistics and demographic statistics?* Epidemiological research is not the only way to gain insight into the state of health of the population (in groups). Also, demographic and health statistics are being collected and used to show insights in the composition versus health status of a population group. In fact, epidemiological research is only performed if no systematically collected statistical data are available. Statistics are an important source of data for epidemiology, and health statistics and demographic statistics can be distinguished.

Health statistics, offer an insight into the health status of (the) population (groups)

Demographic or population statistics offer an insight into the composition of (the) population (groups)

Health statistics say something about the state of health of (the) population (groups), and describe the rate of mortality, number of diseases, life expectancy, years of life lost, hospital (re-)admissions, etc. Health statistics show how many people die of which diseases, but also how many years someone would still have lived if he had not had a disease. The health statistics are compiled from information provided by all kinds of (health care) settings (such as local health authorities, doctors, and hospitals). These health statistics are registered and construct the basis of health indicators.

In addition to health statistics, demographic statistics are important. Demographic statistics offer an insight into the composition of the population and into the number of men and women in a population, different age groups (for example, the number of children aged 0–4 years and the number of those aged over 80 in a country), but also education level and income level. Demographic statistics are compiled from systematically collected data.

- The **International Classification of Diseases (ICD)**, provides information about health, illness, and mortality. It is the international standard for defining and reporting on diseases and conditions. The ICD is used in clinical care, in research studying diseases and disease patterns, and in the management of health care by means of monitoring results and the

allocation of resources. More than a hundred countries use the system, with death rates as the primary indicator for reporting health status. The ICD system helps to reduce mortality and morbidity rates worldwide and to measure progress toward the millennium development goals. ICD-11 is released in 2017. http://www.who.int/classifications/icd/en/

1.4 Health Indicators, Mortality, Morbidity, and Multimorbidity

Health indicators provide nursing professionals with the ability to gain an insight into the relative importance of a particular cause of death or illness. It shows what kind of health problems are important and what problems nursing professionals frequently encounter in their professional practice. This insight also gives a clear picture of the causes of death and diseases that should be addressed with priority, to improve the state of health of the population. Further insight into the state of health based on health indicators is not only an important basis for the policy to be pursued by health care institutions, but also for the policy of the Government. This insight enables priorities to be set and it is an informed way of promoting public health as a whole in the long term. It is not so much promoting health at the individual level, but rather for improvements at the group level.

Health indicators provide an insight into the level of health and disease among the population

What health indicators are important? Health indicators are used to describe the health status of a population. They may offer an insight into the health status and state of health of specific groups or of the population as a whole. Using health indicators, we obtain a clear view of the current level of health and disease among the population. Next, we discuss some of the most common health indicators.

1.4.1 Mortality

Mortality, the percentage of people who die of a particular condition during a specific time period

Death or mortality is a health indicator that shows the percentage of people who die (of a certain condition) during a specific time period. Mortality may describe not only that of an entire population, but also the mortality of a particular group or the mortality related to a certain health problem. By displaying the health indicator mortality, it is suggested that a low mortality rate among the population in a country might be an indication of a healthy population. It is clear that this is not

automatically the case. Conditions that do not kill (low lethality), but result in a significant and long-term disability or limitations for members of this population cannot be found with this indicator (Bouter and Van Dongen 2000).

What are standardized health indicators? Mortality is a common health indicator. This is related to the fact that the registration of mortality among the population is relatively easy. Mortality is also a usable health indicator for comparing the differences in mortality between countries. To compare mortality between both different groups and different populations, it is necessary for mortality rates (but also other health indicators) to be standardized. Standardized mortality is the absolute, actual number of deaths adjusted for size and age structure of the population. Standardization is thus correcting mortality (but also all other health indicators) to population size and composition.

Standardized figures may be compared with each other. For example, if mortality due to HIV in the population is elucidated, then the chances are that more HIV cases will be found in a population of 20,000 people than in that in a population of 500 people. Also, the population composition should be similar and equal: the populations being compared with regard to the occurrence of HIV should be similar and should count the same number of men and women, sexual preferences, and have an equal age distribution among the populations. Mortality rates may exceed the overall mortality in a population in a given period of time, regardless of the condition from which these individuals have died. However, mortality rates may also describe mortality according to different causes separately (for example, mortality due to cardiovascular diseases and mortality due to accidents), or mortality by gender, age or professional group.

▶ If we look at the **mortality from the ICD** http://www.who.int/classifications/icd/en/ then neoplasms (cancer), diseases of the cardiovascular system, and diseases of the respiratory system are the three most important.

1.4.2 Life Expectancy

Life expectancy, the number of expected years of life measured from birth:
- Life expectancy in good health
- Life expectancy without physical limitations
- Life expectancy in good mental health

A more positive view is possible by expressing the health indicator life expectancy. Life expectancy is the number of expected years of life at birth. Each birth cohort has its own life expectancy. The population born in 1950 has a different life expectancy than the group that was born in the year 2000. Calculating life expectancy is based on age-specific death rates for age categories that are in force at the time of birth (Bouter and Van Dongen 2000). It is expected that people of each cohort of a particular year of birth have a certain life expectancy. Favorable

circumstances (such as hygiene, nutrition, health care system) create the expectation that these persons will live a certain (higher) number of years.

> With regard to life expectancy, women live longer than men. This is mainly because the risk of mortality for women is lower from the age of 65 years. For both men and women, life expectancy has risen and this is due to a decreased risk of cardiovascular diseases. Although women live longer, the average number of years that men and women live in good health is almost equal. The number of years that women live longer on average, compared with men, they live in ill health.

The life expectancy will probably increase in the coming decades, especially if the possibilities of gaining an insight into genetic factors as determinants of disease increases. If we obtain a better understanding of genetic factors, practical lifestyle advice can probably be given. In addition to lifestyle advice, the better matching of the health determinant "medical care and prevention" could possibly lead to an improvement in the life expectancy of both men and women. As the main causes of death can be eliminated, we could theoretically increase life expectancy. We call this health benefits, which should be thought of in terms of approximately 0.1–1.5 years.

What does the health indicator life expectancy at birth mean? The life expectancy at birth indicates the number of years that a newborn is expected to live if the mortality conditions stay the same. The life expectancy is calculated based on the current age-specific mortality rates. But these rates change throughout the life of a cohort and this also changes the life expectancy of this group. This is called the remaining life expectancy (Bouter and Van Dongen 2000). When calculating the total estimated life expectancy, the remaining life expectancy rises with age, at the time the remaining life expectancy is estimated, because people in the cohort have already survived a certain number of members of their cohort. In men and women in Europe, life expectancy at birth is increasing.

What is healthy life expectancy? Another indicator for health is the *healthy life expectancy*. The healthy life expectancy gives an insight into the number of years spent in good health. Healthy life expectancy gives both the longevity and quality of life of a population or cohort. The healthy life expectancy is a measure that gives an indication of the length of life, but also of the quality of life. There are three types of healthy life expectancy:

1. Life expectancy in good health
2. Life expectancy without physical limitations (no restrictions in hearing, seeing, mobility, and activities of daily living (ADL)
3. Life expectancy in good mental health (absence of feelings of loneliness, boredom, restlessness, depression, or feeling upset).

Life expectancy in good perceived health is virtually identical for men and women, but women in ill health live longer than men. Thus, although women live longer, they also live longer in ill health, by having a disease or condition. Life expectancy in good health, the life expectancy without physical limitations and in

good mental health is increased by about the same degree as the increase in the total life expectancy. Thus, the "won" years are spent in good health, especially by men.

Is life expectancy in good health the same as quality of life? The health indicator life expectancy in good health is based on the percentage of people who answer "good" or "very good" to the question "How do you experience your own health?" We call this the quality of life and this is a measure of a person's perceived health. If people answer the question "How do you experience your own health?" with "good" or "very good," they give a proper assessment of their health. If people answer this question with "sometimes good and sometimes bad" or "bad", they are classified as "unhealthy."

> ▶ **Rating quality of life**. Patients after a cerebral infarction or stroke have more symptoms such as pain, fatigue, and depression. 10% of patients will experience all these symptoms, 26% of the patients experience two of these symptoms. If patients report more symptoms, they experience a lower quality of life. A lower quality of life is associated with increased mortality (Naess et al. 2012).

What are QALYs? The average life span has increased, in good health to a greater or lesser extent. The question is what this extension of life span means for the perceived quality of life. To better understand this, we use quality adjusted life years (QALYs). It is important to determine the quality of life for the period that is spent with illness, disability or limitations. A calculation is made of the years of life won, taking into account the quality of life. The number of years of life extension is multiplied by the quality of life during the period of the life extension. This results in an outcome (QALY) between 0 (least optimal quality of life extension) and 1 (optimal quality of life extension). QALYs are a weighting factor assigned to the expected remaining life span and quality of life. Although a QALY score of 1 indicates an optimal quality of life, it may also be accompanied by illness or disability. For example, for people with a chronic illness, the QALY is 0.7. Chronically ill patients rate their quality of life a lot less favorably.

What are DALY's? In addition to the QALY, we distinguish disability-adjusted life years (DALYs), in which information about mortality, morbidity, and quality of life are combined. DALYs are a measure of the burden of disease. We call DALYs the burden of disease in a population, because the measure indicates the number of healthy years lost (premature death) to disease and disorders in a population, weighted by the severity of that disease. The burden of disease is calculated by looking at the number of years lost and the number of years that someone has spent with the disease, in which the severity of the health problem is taken into account.. A DALY score of 1 represents 1 lost year of life; a DALY of 7 represents 7 lost years of life. The health indicator DALY offers the possibility of comparing health problems. DALYs display the number of people suffering from a health problem, the severity of the health problem, the mortality rate from the health problem, and the age at which death occurs. DALYs indicate that people with mental disorders, cardiovascular diseases, and cancer show a high burden of disease.

How do you measure ADL? In addition to the measure of life expectancy, we distinguish instruments for measuring *functional disorders*. These are activities of daily living (ADLs) sizes. ADL sizes give an indication as to what extent functional disorders hinder daily life, and give an insight into the quality of life. ADL size also offer an indication, for example, for inclusion in a hospital or for receiving home health care. ADL is indicated by using a questionnaire. The *ADL questionnaire* consists of the following questions: Can you eat and drink? Can you sit down and get up from a chair? Can you get in and out of bed? Can you dress and undress yourself? Can you move to another room on the same floor? Can you take the stairs and go down again? Can you enter and leave the house? Can you move outdoors? Can you wash your face and hands? Can you completely wash yourself? The questions can be answered using: without difficulty; with some difficulty; with great difficulty; only with the help of others; do not know/no answer.

What is the SIP? Also the sickness impact profile (SIP) can be used to indicate functional disorders. The SIP is also aimed at stating the health of a person. In the SIP, the data are obtained using a questionnaire. A few examples of the items addressed in the ***SIP questionnaire*** are: I sleep or take a nap during the day; I stick to something if I am moving around; I don't do any shopping than I otherwise would; I am less interested in other people's problems; only a few people (who know me well) can understand what I am saying; I have little appetite.

What is the McGill Pain Questionnaire? Although the ADL and the SIP questionnaires indicate functional disorders in general, there are also specific, more targeted measuring instruments. As a functional disorder is in a limited domain (such as pain, depression, cognition), specific questionnaires may provide more of an insight into the health of the person. The McGill Pain Questionnaire is one such specific questionnaire for dysfunctions related to pain. The McGill Pain Questionnaire is aimed at giving an indication of the perception of pain and the consequences of pain (for example, for health behavior, relationships with others).

1.4.3 Perceived Health

Perceived health is the health indicator that shows an insight into the quality of life in a broad sense. Quality of life is defined as the functioning of people on the physical, psychological and social dimensions and the subjective evaluation thereof. Thus, perceived health, the subjective evaluation of one's own health status, is a health indicator. For this subjective health state, the focus is on the perception of health. The General Health Questionnaire (GHQ) gives an insight in how mental health is experienced. The GHQ gives an indication of the inability of people to function properly in a mental capacity. The GHQ also offers a view of existing psychological phenomena and by using the GHQ, an indication can be given if a patient runs on the development of a mental disorder. Sample questions from the GHQ include: Do you experience that you are lately under pressure? Can you focus properly (on your activities, your work)? Have you ever become scared or panicked suddenly?

1.4.4 Years of Life Lost

Years of life lost, the number of years that a person loses because of a health problem

If we know the life expectancy of a population or specific group, we can also calculate how many years someone loses because of an illness or accident. These are the years of life lost. In calculating the years of life lost both the mortality and the age at which the person dies are taken into account. This means that the lost years of life represent the number of years that a person who dies of a condition would still have lived based on the remaining life expectancy. In years of life lost, the death of a man or woman at a younger age is more important than that of someone who dies at a more advanced age. Years of life lost per death case or the population as a whole can be calculated. When we look at the number of years of life lost, important causes are lung cancer, coronary heart disease, stroke, colon cancer, and COPD. Finally, it turns out that premature births, perinatal infections and birth defects result in many years of life lost. Years of life lost at the population level is important for health policy, because they show the health status of the population as a whole.

1.4.5 Morbidity

In addition to mortality, disease or morbidity is a common used health indicator. Morbidity is the percentage of people with a health problem in a population. The absence of illness and disease in people is a positive health indicator for the health status of the population. An increase or decrease in illness and disease shows an insight into changes in morbidity. For example, in Europe, the morbidity pattern shows that psychosomatic diseases and chronic diseases are common. In many of these diseases, the lifestyle or behavior of people plays a role.

Regarding morbidity rates, both the new disease cases that occur in a given period are important, in addition to the total number of existing disease cases. We distinguish between incidence and prevalence.

What is the incidence? The incidence is the number of new cases of diseases or of a specific disease, occurring in a specific period. To calculate the incidence, we look at the number of existing disease cases and we check to see if this number is increased, that is, how many new patients are added, in one year during a specific period. Health problems with high incidence percentages are: neck and back pain; infections of the upper respiratory tract; acute urinary tract infections; and private accidents. The number of new cases of the disease is also known as the *annual or yearly incidence*.

Morbidity, rates, and percentages of people with a health problem

- Incidence, new disease cases that occur in a given time period (yearly incidence)
- Prevalence, total number of existing cases of a disease (point prevalence)

What is the prevalence? The prevalence is the total number of existing cases of a disease, at a given point in time or during a certain period. The prevalence of a particular disease is the number of people with this specific disease at a specific point in time. Health problems with high prevalence percentages are: diabetes mellitus; osteoarthritis; coronary heart disease; neck and back pain; and hearing loss. The number of existing disease cases at some specific point is also called point prevalence.

The morbidity rate in a population is not constant. People are cured of their health problem, and there are new cases, but morbidity rates are also influenced by mortality rates. For example, a flu epidemic may show high incidences in a certain period of a calendar year. The size incidence and prevalence can be applied to the total population or to a specific part of the population.

What is the compression of morbidity? The number of years people live with disabilities is reduced and this is called compression of morbidity. Compression of morbidity can be divided into different severity levels. We can distinguish slightly limited when people have one disability, moderately limited when people have two disabilities, and severely limited when people have three disabilities. These disabilities include prolonged or short-term restrictions. Disabilities that have diminished in number are mobility restrictions and limitations in hearing. In most Western countries, a pattern seems to have emerged that limitations decrease, or at least their severity.

What are disease year equivalents? Loss in quality of life can be expressed as ***disease year equivalents***. Disease year equivalents are calculated by the prevalence of the disease multiplied by a weighting factor for the severity of the disease. Or: the incidence of the health problem multiplied by the duration. The weighting factor is determined by experts. By attaching this weighting factor, we can compare the years that people live with disease and the years spent with the disease is comparable with years of life lost because of mortality. For example, if a disease has a weighting factor of 0.5, it means that a year living with this disease is considered equivalent to a half-year lost by premature death. Health problems that result in great loss of quality of life are anxiety disorders, depression, and stroke.

1.4.6 Medical Consumption

Morbidity is often related to the use of facilities in the healthcare sector. We call this health indicator ***medical consumption***. Also, the numerical understanding of medical consumption may be used as a health indicator. Greater use of medical facilities

is thus related to a less healthy population. With this health indicator, comparisons can be made between the use of health care facilities (for example, in Western countries), although a similar standard of facilities in the health care sector is a prerequisite for comparisons. Disorders with a high level of medical consumption are from the diagnosis group of mental disorders. Within this group, dementia and mental retardation are the most expensive.

1.4.7 Multimorbidity

Chronic diseases can be divided into four main categories. The first category consists of chronic diseases that are life-threatening, such as cancer and strokes. The second category includes disorders that can be characterized by recurrent complaints, such as COPD and epilepsy. The third category consists of chronic health problems that progressively deteriorate and disable the person, such as rheumatoid arthritis and chronic heart failure. Finally, there is a category of chronic psychiatric disorders. Chronically ill patients are more frequently women than men and in addition, the most often, the elderly.

What is multimorbidity? Many people with a chronic health problem have not one, but multiple health problems at the same time and this is called multimorbidity. Common combinations of chronic diseases are asthma and eczema; depression and anxiety disorders; and diabetes and coronary heart disease. Of the entire European population, approximately 10% has multimorbidities and this concerns more women than men. The risk of multimorbidity increases for people above the age of 55 years. For those people over 75 years of age, the risk of multimorbidities is 1 in 3.

People with chronic diseases experience a lower quality of life than those without a chronic disease. Multimorbidity probably has an additional negative effect on the quality of life. People with multiple diseases are more commonly admitted to a health care institution and stay there for longer. Also, people with chronic diseases are at a greater risk of complications and of premature death. For the nursing care process, an insight into the risks and consequences of multimorbidity for prevention and care is of great importance. The care or treatment advice that is appropriate when one has a specific health problem may be inadequate or may not even fit at all with the other health problem. The chances of inadequate or incoherent care, with the possible risks for the patient, should make multimorbidity the starting point for care provision (Hoeymans and Schellevis 2008).

> ▶ The **WHO Jakarta Declaration** states the world health policy for the twenty-first century: the policy is aimed at determining the impact of health-promoting activities on health, the development of innovative strategies for health promotion, and determining the required partnerships for health promotion. http://www.who.int/healthpromotion/conferences/previous/jakarta/declaration/en/index1.html

- In the **Resolution on health promotion (WHO** 1998**)** the policy is http://www.who.int/healthpromotion/wha51-12/en/ focused on the breakup of traditional boundaries among the public sector, government and nongovernment organizations to achieve *partnerships for health***.**

1.4.8 Health Inequalities

Diseases and health are not evenly distributed in the world, not even in Western countries. This uneven distribution of diseases is called health inequality. These health inequalities relate to the socio-economic status (SES) and the associated lifestyle habits and (im)possibilities of people. The SES divides people, broadly based on their educational status and income level, can be classified into high, middle, and low groups.

Does the socio-economic status of people affect their health? Yes, it does, people with higher SES are healthier than those with a lower SES. This health difference is denoted by the term "socio-economic health differences". People with a lower SES perceive their health less often as (very) good than do people with a higher SES. People with a higher occupational status and income report a better perceived health than people with lower occupational status and income. The health differences between people with high SES and those with a low SES seem to increase. For a more positive assessment of health, income is more decisive than the educational level.

Immigrants perceive their health as less positive than natives of the same gender and age. In particular, immigrant men experience their health as less favorable; for women the difference is smaller, because in general women perceive their health as less positive. People with a lower SES are sick more often, and they also report physical limitations and disabilities more often. In addition, chronic diseases are more common in these groups. Many health problems are relatively more common in people with a lower SES than in people with a higher SES.

Are morbidity and mortality differences detectable for people with a lower socio-economic status? There are a number of morbidity and mortality differences. Less well-educated men and women live, on average, shorter lives, and, on average, their health status is less favorable during their lifetime. Men and women in the lower socio-economic class have been shown to have shorter lifetimes than people in the highest socio-economic class. The higher the education level of a person, the longer the healthy life expectancy. It is striking with regard to physical limitations and disabilities is that less well-educated people more frequently have physical limitations and disabilities than more highly educated people. Important limitations and disabilities concern hearing, seeing, mobility, and ADLs. Women with a low SES have more physical limitations than men with a low SES. Less well-educated people have more physical limitations because they more frequently have (chronic) health problems. Lung cancer has a fairly strong socio-economic component. People with a lower SES also have more mental health

disorders; people with a higher professional status or a higher income less frequently have mental disorders. Women with a lower level of education are more likely to have mood and anxiety disorders than more highly educated women. It is striking that less well-educated women use less alcohol and drugs. In men, there is no relationship between the educational level and mental disorders. People with paid work less commonly have mental disorders. The mental health of people with a lower SES is mainly determined by their vulnerability to events that cause stress, such as poor housing conditions, poor prospects on the labor market, low education, low professional status, and/or low income. In addition to this vulnerability to events, people with a low SES also feel less in control over their environment.

Do people with a lower SES more frequently have an unhealthy lifestyle? An unhealthy lifestyle is more common in people with a lower than in those with a higher SES. People with a lower SES smoke more often, drink excessively more frequently, are more likely to have unhealthy dietary behavior, and are less physically active. This unhealthy lifestyle includes almost all lifestyle factors. For immigrant groups, the lifestyle factor is less favorable to health with regard to drug use, safe sex, and sports participation. If we look at the lifestyle factor physical activity, around 40% of people with a lower SES are very inactive, whereas 15% of the people with a higher SES are inactive. Overweight and obesity are adverse lifestyle factors that are more likely to occur in certain groups of society. At the group of lower-skilled people, obesity is four times more common than in highly educated people.

What are the causes of these health differences? The health differences are caused by a combination of factors. Education and income level play important roles, but also the working conditions may adversely affect the health status. If we look at the income level, we see that the higher the income, the healthier a person. If the income is low, there are more long-lasting health restrictions and health is less well experienced. People with a lower level of education are more often work in non-optimal conditions such as dusty work, working with harmful substances, etc. Also, the parenting style, the "climate" in the family in the broad sense of the word, has an impact on health. For example, accidents are more common in larger families.

There are no major differences between people with lower SES and those with higher SES regarding the use of health care. In accordance with their health status, people with a lower SES make greater use of the health care facilities. However, it is striking that they make greater use of the GP and less often appeal to a specialist. With regard to preventive health care facilities, people with lower SES often use these less. People with a low SES, for example, participate in population cervical cancer screening less often (the attendance is lower) and are less easy to reach for smoking cessation activities.

References

Bouter LM, van Dongen MCJM. Epidemiologisch onderzoek: opzet en interpretatie. 2nd ed. Houten: Bohn Stafleu Van Loghum; 2000.

Breslow L. From disease prevention to health promotion. JAMA. 1999;281(11):1–9.

Hoeymans N, Schellevis FC. Chronische ziekten en multimorbiditeit samengevat. In: Volksgezondheid Toekomst Verkenning, Nationaal Kompas Volksgezondheid. Bilthoven: RIVM; 2008.

Naess H, Lunde L, Brogger J. The effects of fatigue, pain and depression on quality of life in ischemic stroke patients: the Bergen Stroke Study. Vasc Health Risk Manag. 2012;8:407–13.

WHO. Ottawa charter. 1986. www.who.int.

WHO. Resolution on health promotion. 1998. www.who.int.

WHO. The World Health Report 1999: making the difference. Lyon: World Health Organization, WHO Library Cataloguing in Publication Data; 1999.

WHO. The World Health Report 2002 – reducing risks, promoting healthy life. 2002. www.who.int.

WHO. The World Health Report 2003 – shaping the future. 2003. www.who.int.

WHO. World Health Report. 2012. www.who.int.

Health, Health Risks, and Mapping Public Health

2

Health and health problems are affected by health determinants. Health determinants are groups of factors that may provide a way for analyzing health and health problems. Health determinants are: endogenous determinants, lifestyle and behavior, the physical and social environment, and medical care and prevention. Each health determinant has a specific impact on a health problem. Health determinants may be a guide for optimizing health problems, for the understanding of health risks, and for improving (people's) health. We start with Health Concept of Lalonde, and also describe the Conceptual Model of Public Health and the VTV-model (Sect. 2.1). In Sect. 2.2., endogenous, personal health determinants are described. In Sect. 2.3, the health determinants lifestyle and behavior are dealt with; in Sect. 2.4 the health determinant physical environment and in Sect. 2.5 social environment are described. In Sect. 2.6, medical care and prevention are the focus.

2.1 Lalonde Report

The Lalonde Report consists of a model for exploring health, and the central concept is to promote health (Lalonde was the Minister of Public Health in Canada, 1974) (Lalonde 1974). In the Report, health is the central theme rather than disease or sickness.

What is the core of the Report? An inventory was made of all kinds of factors that affect health and disease, and a classification devised of the internal environment, external environment, behavior, and health care. Each of these areas, all equally as important, are called health determinants. Using the Lalonde Report (Fig. 2.1), but also in other conceptual models of public health (Figs. 2.2 and 2.3), we are able to look at the health determinants that affect health at the group level. The models are not developed to analyze individual health of a patient or client, but are suitable for looking at health at the population or group level.

B. Sassen, *Nursing: Health Education and Improving Patient Self-Management*,
DOI 10.1007/978-3-319-51769-8_2

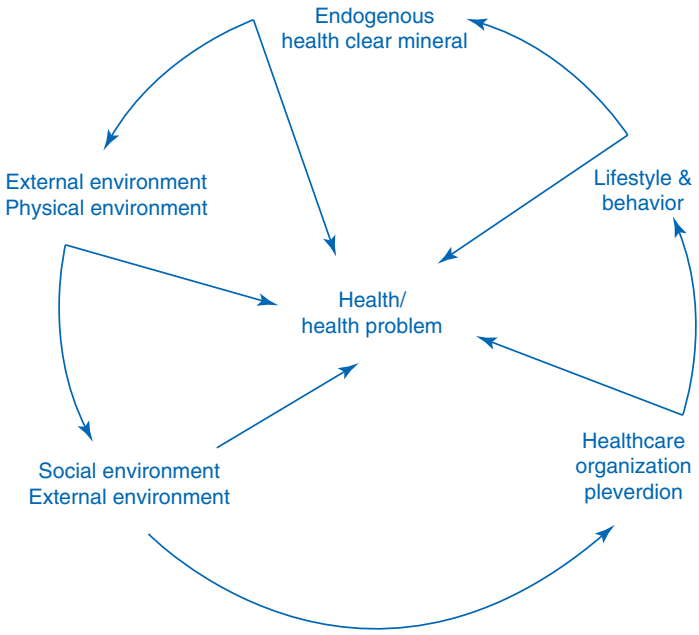

Fig. 2.1 Health Concept Lalonde

Health concept, health determinants:

1. Endogenous, personal health determinants, internal environment or human biology
2. Health determinants behavior and lifestyle
3. External environment: health determinant physical environment
4. External environment: health determinant social environment
5. Health determinant healthcare organization and prevention

Before the health concept was common, we used to think about health from the perspective of endogenous determinants of health, and medical care was the way to handle health problems. The innovation in the health concept was above all the exogenous health determinants lifestyle and behavior, in addition to more attention being paid to the health determinants physical and social environment. Now, it is a common understanding that lifestyle and behavior affect health and play a role in health problems, and that lifestyle and behavior should be taken as entry points for health promotion. However, taking health as the starting point for nursing care and not disease, remains an issue in health care.

The determinants of health, how can they be described in brief? The endogenous, personal health determinant is about the factors that play a role in the human body and affect health. The endogenous health determinant is subdivided into

genetic factors and acquired properties. The endogenous health determinant is also referred to by the terms individual factors, internal environment, or human biology.

The health determinants lifestyle and behavior are the influence that lifestyle and people's behavior have on their health and on the onset or worsening of health problems. These health determinants concern both one's rationale to behave in a certain way, as the actual behavior of a people.

The health determinant external environment can be divided into the physical and the social environment. These health determinants are also called exogenous determinants of health. The physical environment factors affect health outside the human body and can have an influence on the onset or worsening of health problems. For the people themselves, the physical environment and the impact on their health is often difficult to control.

The social environment is the health determinant that reflects the place of people within society. Their place in society has an important influence on health and on people's sense of well-being.

The health determinants healthcare organizations and prevention include all kinds of health care facilities. These facilities are delivered with the aim of curing people, of preventing the worsening of the health situation or of ensuring that people stay healthy.

- **Health for all by the year 2000**. The WHO's aim is optimal health for all people in the world, and those people should be enabled to live a socially and economically productive life. The innovative strategy of global health for all by the year 2000 is that this strategy was the departure point for health policy in 34 countries, regardless of the public health situation and the level of health care facilities. Primary health care is the means of achieving optimal health. The main goals of the health-for-all strategy http://wholibdoc.who.int/publications/9241800038.pdf was to reduce health inequalities between countries and groups in countries and to improve the health of individuals and reduce health problems. This was to be achieved by promoting equality in health, improving the quality of life, adding health to life by reducing health problems, and prolonging the life span (reducing premature and maternal mortality).

Health (problems) are central to the health concept, but do health determinants mutually affect each other? The health concept takes health as the starting point, and the model may be used to analyze a health problem. In what way do health determinants affect health or the health problem? Health determinants have a mutual, sometimes complex relationship. For example, overweight and obesity can be determined by genetic factors, but also by the balance between energy intake via food and energy consumption by motion behavior. Movement behavior may also be affected by environmental factors, such as sitting work, support from the social environment, and the financial situation (being able to afford to use sports facilities). The determinants of

personal characteristics, lifestyle, and environmental factors, are closely linked. The interrelationship between health determinants needs attention, and this may have important implications for health promotion and disease prevention.

In health problems, we often see a combination of endogenous health factors, lifestyle factors and environmental factors; and social environmental factors are better known. For example, depression has a relationship with the endogenous health determinant personality traits. The exogenous health determinant social environment, such as family problems, social relations, social vulnerability, (early) life events, workload and stress, SES, and household composition, also plays a role. Furthermore, the exogenous health determinant physical environment is involved, including environmental factors such as micro-organisms. Finally, the health determinant health care organization shows that GPs are able to notice the early warning signs of depression.

Another example is that breast cancer has a relationship with the health determinants lifestyle and behavior. Nutritional behavior plays a role, in addition to protection given by breast feeding. Not only alcohol consumption has an influence on breast cancer, but also the degree of alcohol dependence. Physical activity and higher fitness levels have a positive influence. The use of the contraceptive pill is also involved. In addition, breast cancer has a relationship with the endogenous health determinant body weight.

The Health Concept of Lalonde is an important model. In both Conceptual models of Public Health (Figs. 2.2 and 2.3), the Health Concept of Lalonde is easy to recognize, and the models show that the concept of health is important in health care and health policy.

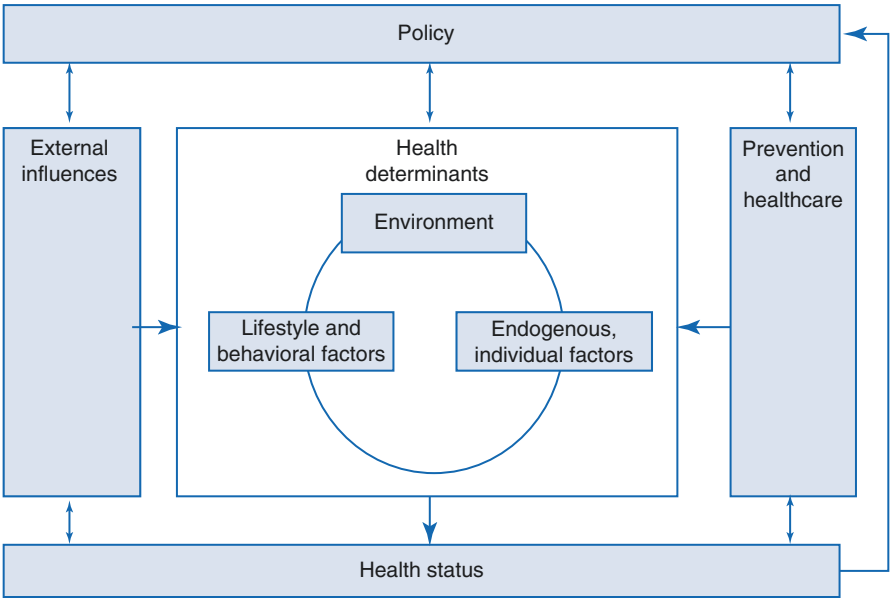

Fig. 2.2 Conceptual model of public health. Source: National Institute for Public Health and the Environment (RIVM) 2011. http://www.nationaalkompas.nl, 1 April 2011. Reproduced by permission

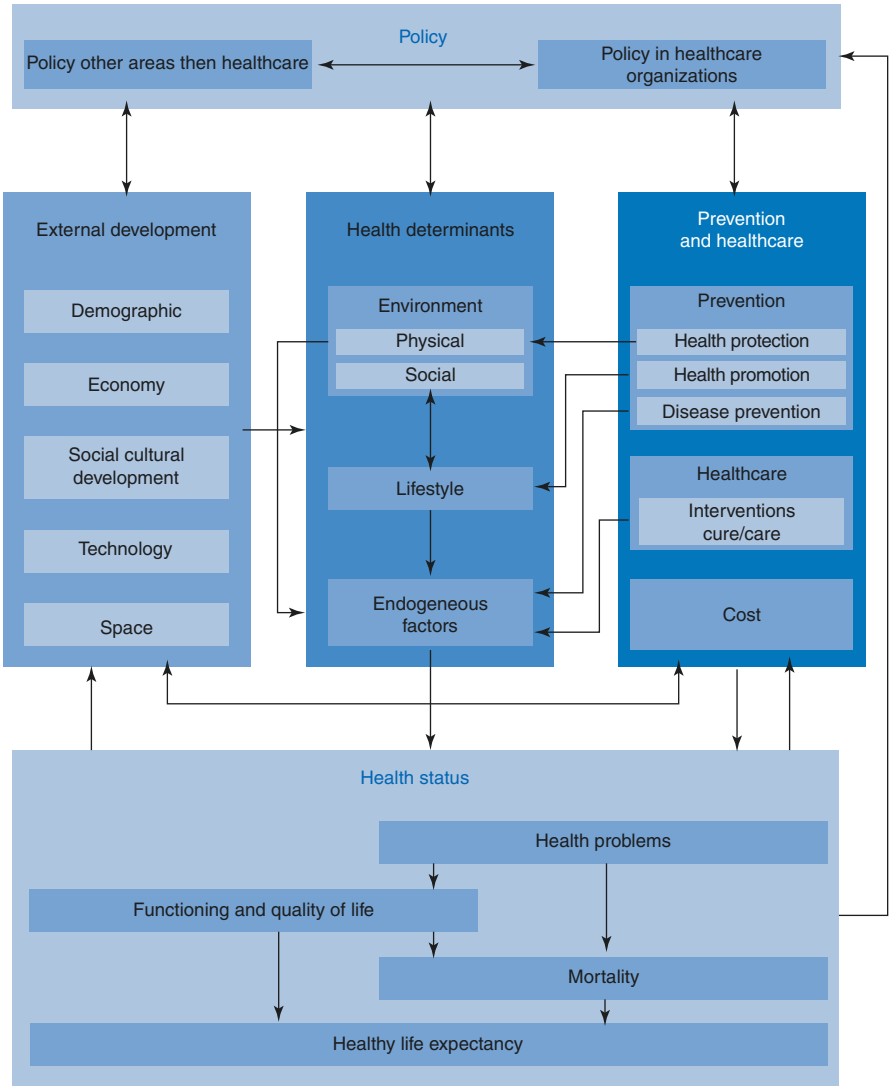

Fig. 2.3 Conceptual model of public health, VTV model. Source: RIVM 2006. Reproduced by permission

2.2 Endogenous, Personal Health Determinant

Endogenous, personal health determinant, both physiological and psychological factors that affect health or health problems

The endogenous determinant concerns both physiological and psychological factors that affect human health or health problems. We call this the personal health determinant (Fig. 2.2). When a health problem is under consideration, all factors that have a relationship with the health problem should be identified. The endogenous health determinant is subdivided into first genetic and hereditary factors, and second, acquired properties. Both the genetic and hereditary factors and the acquired properties (each individual) have specific health effects.

2.2.1 Endogenous Health Determinant: Genetic, Hereditary Factors

Endogenous, personal health determinant
Hereditary factors: abnormalities in the genes, abnormalities in chromosomes, multifactorial health problems, and facilities for health problems

There is no doubt that genetic, hereditary factors have a major influence on our health. This endogenous health determinant determines the differences between people and plays a role in physiological characteristics, intelligence, and personal characteristics. Hereditary factors influence health if there are any abnormalities in the genes, abnormalities in chromosomes or multifactorial health problems, and if there is a predisposition to a disease. This endogenous health determinant usually leads to permanent health damage.

Which abnormalities in the genes do we know? We speak of monogenic diseases if the onset of the disease is based on one gene. Although this is a rare disease picture, the numbers increase. An example is xeroderma pigmentosum (XP), caused by the influence of sunlight, that confers a greatly increased risk of certain types of skin cancer. Abnormalities in the genes can be passed from parents to children, a child may inherit a recessive disorder because the healthy parents pass the abnormal gene to the child. For example, cystic fibrosis and phenylketonuria. In dominant inheritance (such as Huntington's disease and familial hypercholesterolemia), if one of the parents is sick, there is a 50% chance of the child getting the disease too. Abnormalities in the genes occur in 1–2% of the population.

What do we know about abnormalities in chromosomes? In addition to abnormalities in the genes, we can distinguish chromosomal abnormalities. For example, Down syndrome. Birth prevalence of children with Down syndrome increases with the age at which women have children. Furthermore, improved treatment, surgery

and intensive care capabilities has led to a decrease in mortality among children with Down syndrome, and on the other hand, possibilities for screening and prenatal diagnosis have increased.

What are multifactorial health problems? When hereditary factors play a role, but others are involved too, this is known as multifactorial health problems. For example, congenital heart defects, and spina bifida. It is expected that the number of children with birth defects will decrease, as more women take folic acid tablets, which reduces the risk of a birth defect. In addition, the use of prenatal diagnosis has increased, and treatment and care for children with birth defects have improved (Cornel 2004). Birth defects of the cardiovascular system may be the result of health problems of the mother during pregnancy, such as type 2 diabetes, untreated phenylketonuria, use of alcohol and lithium, and infectious diseases (such as rubella and mumps).

Is there a predisposition to health problems? For the endogenous determinant, the predisposition to diseases is also of interest, for example, in the case of schizophrenia, manic depression, asthma, and allergies, adult-onset diabetes, epilepsy, and rheumatism. These health problems are caused by an interaction between a genetic predisposition and exogenous factors. For schizophrenia, a chronic psychiatric health problem, genetic predisposition plays a role, in combination with (far more important) exogenous factors. Prevention of schizophrenia is aimed at preventing the first or recurrent psychosis. However, it may also take the form of stress management for vulnerable people, or promoting the social development of children at an increased risk of psychosis (Hoek and Kahn 1995; Maas and Jansen 2000). For depression, too, a predisposition is possible. Depression is a genetically determined response pattern that occurs at an increased vulnerability in combination with triggering factors (Bijl 2001). Depression can be explained from an integrated bio-psycho-social explanation model. Heredity, age, low self-esteem, social vulnerability, gender, and marital status are factors that play a role in the explanation model. The depressive disorder may be shortly lived or of a chronic nature; it is seen in all age groups, but more often in women than in men. A dysthymic depression is a mild form of depression with a minimum duration of 2 years, and is more common in older people. The number of people with a depressive and/or dysthymic disorder is increasing, because the condition is detected earlier today by family doctors and because people seek professional help sooner. The occurrence of depressive and dysthymic disorders in young people needs attention.

- The **health-for-all strategy** http://legacy.library.ucsf.edu/documentStore/g/w/o/gwo93a99/Sgwo93a99.pdf of the WHO had 38 goals. Themes are primary health care, health promotion, participation, justice, and multisectoral cooperation. The goals of the strategy include maintenance of health; increase healthy behavior (healthy nutrition, moving behavior), decrease unhealthy behavior (alcohol use, drug use, unsafe behavior in traffic, and violent social behavior); and controlling adverse environmental factors (water and air pollution, food unsafety, work-related health risk).

2.2.2 Endogenous, Personal Health Determinant: Acquired Properties

Endogenous, personal health determinant:
Acquired properties: high blood pressure, high cholesterol, abnormality in the immune system, abnormality in glucose levels, overweight and obesity, mental health, and aging

In addition to hereditary factors, acquired properties are also endogenous health determinants.

Is high blood pressure an acquired trait? An important acquired trait is hypertension or high blood pressure. This is the case if the ***systolic blood pressure and/or diastolic blood pressure*** is too high or when people use blood pressure-lowering medications. An isolated elevated blood pressure exists, when either only the systolic blood pressure or only the diastolic blood pressure is increased. Both in men and in women, blood pressure increases with increasing age, especially after the age of 35. Isolated elevated blood pressure is most common in people aged over 85 years. High blood pressure is less common in people with higher education levels. Health effects associated with high blood pressure are chronic conditions, such as coronary heart disease and stroke, heart failure, and dementia. Factors that affect high blood pressure in a negative sense are overweight, physical inactivity, low consumption of fruits and vegetables, but also (excessive) alcohol use, smoking, and the consumption of salt and fat. Lifestyle factors greatly affect blood pressure. In the prevention of high blood pressure, optimizing lifestyle factors is most important. If optimizing lifestyle is insufficient, drug treatment creates a considerable reduction in the number of people with high blood pressure and cardiovascular diseases.

Is an abnormality in the immune system an acquired trait? The immune system plays an important role in maintaining the health, and abnormalities caused by bacteria, viruses, fungi, and parasites may lead to various forms of cancer. Health problems are allergies, chronic auto-immune diseases (such as rheumatoid arthritis), liver cancer, and infectious diseases (such as HIV, pneumonia, and flu). In a normal state, the human immune system protects against external influences, the so-called exogenous factors. There is an increase in the number of adults and children with allergies and autoimmune diseases, possibly due to a disturbed balance caused by fewer infection sources in the area. A disturbed balance may lead to increased production of the antibody IgE, which may ultimately evoke an allergic reaction. Chronic diseases, such as HIV, Hodgkin's disease, and hepatitis B and C have a clear relationship with impaired immunological defense against certain viruses.

Is a high cholesterol level an acquired trait? If the LDL cholesterol level in the blood is too high, there is an increased risk of premature death from coronary heart diseases. In addition to a high cholesterol level, a lower level of protective HDL cholesterol is a risk factor for the development of coronary heart disease. Also, genetic and lifestyle factors play a role. Lifestyle factors such as saturated fats in the diet,

overweight, and smoking play a negative role. Physical activity has a positive impact on cholesterol levels. Physical activity increases the beneficial HDL cholesterol levels in the blood. The prevalence of high total cholesterol in the blood decreases in both men and women, in all age groups, but the largest reduction is seen among older people. The decrease in cholesterol levels is due to the decline in the use of saturated fat in the diet. The decrease continues as the preferred nutritional habit persists.

Is a varying blood glucose level an acquired trait? The glucose tolerance indicates the degree to which the body properly deals with the varying concentrations of glucose in the blood. There may be a normal glucose tolerance, impaired glucose tolerance (untreated diabetes mellitus) or glucose intolerance (treated diabetes mellitus). People with impaired glucose tolerance have a greater chance of getting diabetes mellitus. Diabetes mellitus is a chronic metabolic disease and the risk increases with age. Factors that have a negative impact on the glucose tolerance, are overweight, specifically an unfavorable abdominal fat distribution. Physical (in)activity and a diet that is high in saturated fats and has too little dietary fiber also have a negative influence. Among young people, we see an increase in type 2 diabetes, (serious) overweight, combined with an unhealthy diet and a lack of physical activity. The impact on people's lives is great. Diabetes patients experience their health as relatively poor. Younger diabetes patients often state that they are depressed and anxious. Diabetes patients rate their quality of life as less favorable, as the health problem is more serious. Diabetes mellitus confers a higher risk of coronary heart disease and stroke. Next to asthma, it is the most common chronic disease among children.

Is overweight and obesity an acquired trait? The acquired property overweight/obesity can cause or contribute to the development of health problems. Overweight people experience a lower quality of life. It leads more frequently to diseases and physical limitations rather than to early mortality. Being overweight has a link with chronic health problems such as cardiovascular diseases and diabetes mellitus type 2. But it is also linked to cancer (especially colon cancer), disorders of the musculoskeletal system (osteoarthritis), and disorders of the respiratory organs. In women with severe obesity, menstrual disorders and infertility are more often seen. Obesity also has a great influence on the development of chronic health problems, even more than smoking or excessive alcohol consumption. Obese people have a shorter life expectancy and a longer unhealthy life expectancy. Seriously overweight and obesity is more common in people with a lower level of education. Overweight and obesity increases in children from the age of 4 years and in this group, the prevalence increases most severely. Children with overweight and obesity have problems such as stigma and social issues. The main cause of being overweight is the imbalance of the energy intake from food and energy expenditure through physical activity. The increase in the number of overweight people and obesity is explained by a shift in eating patterns, but also by the reduction in physical activity. Fruit consumption has decreased and the intake of snacks, soft drinks, and fruit juices has increased. The treatment of obesity is usually complex, often with disappointing results in the long term.

- The perception of body weight affects the quality of life. Men who thought that they were too heavy (rightly or wrongly), rated the health

they experienced less favorably than men who thought they had a normal body weight. For women, it was shown that both the actual body weight and the perception of body weight influenced the assessment of the quality of life.

- **Fatal complacency** (WHO 1999) The WHO stated that six infectious diseases (malaria, aids, tuberculosis, measles, diarrhea, and respiratory infections) constitute 90% of the total mortality from infectious diseases. Infectious diseases are an important problem and the leading cause of death in children and adolescents. The reasons are that not all children in the world have been vaccinated, but also the resistance against the vaccine, an increasing number of newly infected persons (due to passenger traffic), the emergence of new infectious diseases (such as Ebola), and the flare up of cholera, diphtheria and tuberculosis.

Is psychological ill health an acquired trait? Also, personal characteristics and psychological ill health affect health and are part of the acquired properties. Personal characteristics may enable exogenous factors (such as stress) and endogenous factors (such as health problems) to handle, to reduce or to tolerate (coping). Physical conditions may also have an influence on mental health, such as in the case of Parkinson's disease. For people with Parkinson's, in the brain there is a shortage of neurotransmitters, which are important for locomotion and mood. There is evidence that many mental illnesses are related to abnormalities in the nervous system and with the number of neurotransmitters, and mental health is adversely affected. Based on this knowledge, medication is developed that gives good results for treating mental disorders (such as for Parkinson's disease and manic depression). There are also interventions to increase skills to better deal with these disorders. An example of this is resilience training in primary and secondary education. Burdensome family circumstances, such as incest and abuse, are also common causes of mental disorders that affect mental health.

Is aging an acquired trait? Aging is also an acquired property, and the physical, mental, and social aspects of the aging process affect the health and quality of life. In aging, the functioning of individual organs and the organ system tails off, as does resistance to disease and stress. A distinction can be made between normal and abnormal aging. In normal aging, the physiological function gradually decreases. In abnormal aging, the aging process is accelerated by (a) health problem(s). Also, adverse environmental factors or an unfavorable lifestyle may accelerate the aging process. In addition to aging-related diseases, there are diseases that already exist, but only become manifest later in life. Examples include cancer and arteriosclerosis. There are aging-dependent diseases, whose prevalence increases with age. Examples include Alzheimer's disease, osteoporosis, and type 2 diabetes. Intercurrent diseases are those that do not arise on aging, but that have more serious consequences later in life. Examples include pneumonia after flu and injuries after falling incidents. Chronic diseases in the elderly are the diseases that have emerged at a young age and continue at a later age. Examples include COPD and mental disorders. Finally, we see diseases from which the recovery is not complete and

worsen with the advance of time, for example, a repeated heart attack or hearing impairment. These are the wear-and-tear diseases (Van Bezooijen 1993).

What is the role of the nursing professional in endogenous health determinants? In almost all areas in which nursing professionals work, they take care of patients with reduced health status by hereditary factors and acquired properties. With the proper interweaving of prevention and professional care, health risks and health problems can be signaled earlier. Health promotion and the promotion of the self-management of the patient are an important starting point for optimizing health.

2.3 Health Determinants Lifestyle and Behavior

Health determinants lifestyle and behavior include all kinds of behavior that have positive and/or negative effect on health and/or on a health problem

Health determinants lifestyle and behavior: health skills, feeding behavior, alcohol and drug use, smoking behavior, movement behavior, and sexual behavior

The health determinants lifestyle and behavior described in the Health Concept of Lalonde Report include all kinds of behaviors that have a positive or negative impact on health and/or on a health problem. Behavior and health behaviors, but especially behavioral changes, are for nursing professionals an important means of achieving improved patients' health and of decreasing health problems. These changes in lifestyle at an individual level (by changes in knowledge, attitude, and behavior) should be supported by changes in the physical and social environment. Apart from determining which behaviors have a relationship with health and the health problem, it is important to see if the behavior is "excessive", in which adverse health effects may occur. For all lifestyle factors the trend seems unfavorable, with the exception of the use of saturated fat. Although the lifestyle of young people has become less favorable, that of older people is more positive. In the elderly, the lifestyle is "only" unfavorable regarding physical activity and eating saturated fats.

What are health skills and how do they affect health? Health skills are the skills of people to acquire education on health. Not only acquiring information on health is important, but people also need to understand, evaluate, and use education. This enables them to make health-related decisions. Health skills are rather complex skills. These skills determine whether people can find their way in health care. Health skills determine how people assess their own health. People with lower health skills often experience their health as less good. Also, they often have one or more chronic diseases and therefore they have to use health care facilities more frequently and over a longer period of time. People with lower health skills make less use of preventive health care.

Is nutritional intake part of people's lifestyle and behavior? Nutritional intake has a close relationship with the health determinants lifestyle and behavior, and a

clear influence on health and health problems. Health problems can be both primarily and secondarily related to nutrition. Nutrition has a primary connection with dental caries, obesity, constipation, iodine deficiency, underweight, and alcoholic liver cirrhosis, and in hypertension, iron deficiency and stomach and esophageal cancer, and certain heart diseases. For example, there is a decline in the number of children born with a deviation of the cardiovascular system, which seems to be the direct result of increasing folic acid use by expectant mothers. In a secondary connection, health problems play an important role, but other health determinants are also important. For example, in colon cancer, low consumption of fruits and vegetables is a risk factor, but this is also related to obesity and physical inactivity. What do we know about nutrition and important health problems? Nutrition is one of the factors that determine the emergence and persistence of heart disease. People with coronary heart disease have a high intake of energy and especially of fats. For high blood pressure, there is a relationship among the use of alcohol, salt, and a high energy intake. The contribution of nutrition in cancer is estimated to be approximately 35%. Colon cancer has a relationship with a high fat intake. Mouth, throat, and esophageal cancer have a relationship with alcohol consumption. Stomach cancer has a relationship with the nitrate and nitrite intake. Diabetes mellitus type 2 has a connection with too high an intake of energy and too low an intake of saturated fat and unsaturated fat and fiber. Obesity has a clear link with energy and high-fat food, combined with an increase in waist size and physical inactivity. Finally, in osteoporosis one of the causes is the low absorption of calcium and vitamin D, especially in the elderly.

To what extent does alcohol and drug abuse affect your health? It is striking that moderate alcohol consumption (only one drink per day) has a positive effect on the heart's blood vessels and this is probably even more positive than no alcohol use. However, excessive alcohol consumption has a clear negative influence. Alcohol and drug abuse can lead to pharmacological addiction, which leads to psychological addiction (with feelings of shame and guilt) and/or to a social addiction (with conflict, isolation, and stigma). Alcohol use has a clear relationship with (traffic) accidents and chronic diseases such as liver cirrhosis, heart disease, and cancer. The immune system can become disrupted, increasing the risk of tuberculosis, viral infections, and cancer. Alcohol use can lead to increased blood pressure, with a greater risk of stroke and heart disease. Also, mental and social problems may result and are becoming increasingly common. Alcohol dependence increases the risk of all types of mood disorders (depressive and anxiety disorders). Alcohol use has a negative impact on the fertility of both men and women. Excessive alcohol consumption during pregnancy can lead to hyperactivity (ADHD), a disrupted sleep/wake rhythm, and attention-deficit disorders in the child. With the mother's high level of alcohol use (six or more glasses a day) the child may develop growth delay and mental retardation. Health problems related to drug use are addiction diseases, intoxications, psychosocial, psychological, and psychiatric problems (for example, drug psychosis), an increased possibility of infection, HIV, and accidents. The link with psychiatric disorders and damage to the brain is becoming increasingly well-known. Factors influencing the addiction to alcohol or drugs are heredity and predisposition, personality, conditioning, the

expectation – and overvaluation – of the effects of alcohol or drugs and early life events, family problems, and socio-economic disadvantage.

> ▶ **True or false?** Surely you're not addicted to smoking so quickly? Research shows that girls who occasionally smoke, are addicted after 3 weeks. Boys who occasionally smoke, are hooked after an average of 6 weeks.
> Does having a higher level of education indicate that a person is less likely to become addicted to smoking? Research shows that young people with a lower level of education smoke twice as often as young people with a higher level of education. Also for adults, the percentage of smokers among those less well-educated is higher than among people with a higher level of education.

Is smoking as a way of life always an adverse health determinant? Smoking contributes to the onset of major health problems. Eighty-five percent of all cases of lung cancer can be attributed to smoking behavior. There is a slightly increased risk for passive smokers and for people who are intensively exposed to chemicals. The chances of getting lung cancer increases with the number of cigarettes smoked. In addition to the number of cigarettes per day, the period during which a person smokes determines the risk of lung cancer, and the age at which smoking begins. For COPD, smoking is the main exogenous health determinant, in addition to hereditary characteristics and air pollution. Smoking during pregnancy results in lower birth weight in the child, and infant mortality is related to the smoking habits of the mother during and after pregnancy. Children of parents who smoke have more respiratory infections and complaints. Asthma attacks can be caused by passive smoking. Children with asthma can get respiratory tract infections and are more frequently admitted to hospital. Smoking behavior and alcohol abuse are interlinked (Willemsen 2004).

> ▶ **True or not true**. If your patient has a chronic health problem, does moving behavior make sense?
> Getting enough exercise and being physically active has a positive influence on the course of major health problems, such as coronary heart disease, type 2 diabetes, COPD, osteoporosis, stroke, depression, rheumatoid arthritis, epilepsy, and cystic fibrosis

To what extent does affect physical activity your health? Physical activity is a lifestyle factor that can yield significant health benefits. Physical activity at a moderate intensity level, carried out regularly, has a beneficial effect on health. Examples of this are cycling to and from work or school, walking and gardening or household work. Physical activity at a high intensity level, carried out regularly, improves physical fitness and improves the condition of the heart and lungs. Examples include running, rowing, and skating. Physical activity regularly carried out at a high intensity level has a beneficial effect on cardiovascular risk factors such as high blood pressure, high cholesterol levels, and waist circumference (Sassen et al. 2009). An

adult is physically active if he is regularly (for example, three to five times a week) moving continuously for about an hour (45–60 min). To improve physical fitness, an adult should be physically active for three times a week for the duration of 20–30 min, performing exercise at a high intensity level. Even low physical activity (30 min hiking or cycling at a self-selected pace) improves health, reduces cardiovascular pressure, increases the fat breakdown, and results in a slightly beneficial change in the serum cholesterol content of the blood. For people who are very inactive, in particular, physical activity at this level can lead to improved health. The health-promoting effect of moving behavior lies in the influence on the endogenous determinants such as blood pressure, body weight, body fat, bone density, triglyceride levels, the ratio HDL/LDL cholesterol, glucose tolerance, and insulin sensitivity. Health problems associated with physical inactivity are coronary heart disease and type 2 diabetes mellitus, osteoporosis, colon cancer, COPD, stroke, depression, breast cancer, and chronic joint rheumatism. Physical inactivity usually accompanies a sedentary lifestyle. There are many health benefits to be gained when very inactive people (about 15–20% of the population) become more active. Physical activity contributes to a general sense of well-being for both healthy people and people with a chronic illness or other health problems.

- What is the **double burden (WHO)?** The double burden consists of the combination of infectious diseases and noncommunicable health problems and remains very persistent among the world's population. Noncommunicable health problems include cardiovascular health problems, cancer, and accidents, in addition to psychiatric health problems such as depression, psychoses, alcohol addiction, and obsessive–compulsive disorders (WHO 1999).

To what extent is sexual behavior a lifestyle factor? Sexual behavior is related to health problems such as sexually transmitted diseases (STD) and HIV, unwanted pregnancy and sexual abuse, in addition to urinary tract infections. Young and old are aware of the risks and prevention capabilities of STIs and HIV, but this does not lead to widespread condom use. The risk of transmission through unprotected anal or vaginal sexual contact is greater for men to women than from women to men. Transmission may also occur through shared injection materials, by needle stick injury (probability 0.3%), and by mother-to-child transmission at birth or through breastfeeding. Unprotected sexual contact can also lead to a human papillomavirus (HPV) infection, which plays a role in the development of cervical cancer. The assumption is that the number of HIV infections does not decrease. Chlamydia, gonorrhea, and syphilis in particular are increasing. The combination of viral resources used in the treatment of HIV has led to a better prognosis. HIV is now a treatable health problem and has become a chronic disease. The combination therapy is stressful for the patient and produces many side effects; patient compliance with regard to the follow-up of the evaluation of instructions is sometimes compromised. HIV infections are spread worldwide and it is expected that the number of infections among heterosexuals will rise further. This spread has occurred to a large extent because of travel from countries where HIV is widespread.

What is the role of the nursing professional in the health determinants lifestyle and behavior? Nursing professionals have an important task concerning the health determinants lifestyle and behavior. Many preventive and curative responsibilities of nursing professionals are (partly) concerned with turning on patients (groups) to healthier behavior. Many lifestyle factors affect health and can (eventually) lead to health problems. By changing the lifestyle factors, improvement and promotion of the health of patients (groups) is to be expected. Learning healthier behavior is an important means of influencing lifestyle. Health education and patient education are predominantly concerned with changing behavior that is undesirable because it is harmful to health. Often, this involves promoting self-management of patients so that they are better able to live with their health problem. Health promotion can focus on promoting healthy eating habits and safe food. Healthy eating behavior involves, therefore, the prevention of (welfare) diseases, providing essential nutrients, promoting quality and duration of life in patients with nutrition-related disease, the promotion of breastfeeding, and the prevention of adverse effects of food hypersensitivity. Safe food involves promoting and monitoring safety during the composition, storage, and preparation of food products, for example, the prevention of infection with microorganisms such as *Salmonella*. Health promotion may also be aimed at reducing the consumption of saturated fat or promoting the consumption of fruit and vegetables. Prevention and health promotion may target responsible alcohol use (for example, for young people to learn the skills to resist social pressure) and early identification of problem use (for example, in youth health care). Health promotion may also focus on optimizing movement behavior. Targets for health promotion include the low level of knowledge (specific for chronic patients) about the risks of insufficient physical activity. However, the negative attitude to moving and the low self-efficacy can be targets for health promotion, specifically for the elderly, and people with lower socio-economic status (SES). Finally, health promotion may focus on risky sexual behavior. Targets include the low level of knowledge about the risks of unsafe sexual behavior (especially about STIs and hepatitis B), but much more important targets are the negative attitude in relation to safe sex and the low level of skills required to perform safe sexual behavior. Changing lifestyle factors and promoting self-management is a complex process. The way in which nursing professionals have to deal with this cannot be described in a few sentences. In the following chapters, this will be examined in more detail.

2.4 External Environment: Health Determinant Physical Environment

Exogenous health determinant physical environment

The influence of the environment on health and the onset of health problems: physical factors, chemical factors, and biotic factors

Within the framework of the Health Concept of Lalonde Report, the external environment consists of the physical environment and the social environment. By

physical environment we mean the soil, water, air, climate, and the surrounding organisms. The physical environment plays a role in health and in the onset of health problems, although the effect of specific substances from the environment on our health, in both the short and the long term, is difficult to determine. This is related to the different routes along which exposure can take place and to personal differences. The physical environment is mainly formed of chemical, physical, and biotic factors.

- **True or not true**. Pregnant women protect their children against noise damage because of the protective layer of the uterus.
  The hearing of children who are exposed to high noise levels during pregnancy may be damaged even before birth.

What are physical factors and what influence do they have on health? Important physical factors that act on the state of health are sound and radiation. Sound complaints are related to road traffic noise, neighbors, and the immediate living environment such as sounds of aviation, industries, recreation, and railway traffic. Health problems related to noise pollution include stress symptoms such as high blood pressure and coronary heart disease due to prolonged exposure. Also, gestational hypertension, sleeping problems, and impaired concentration and performance may all be related to noise.

Of all the ionizing radiation in the environment, about 75% is natural and the rest is artificial and emitted by for example medical devices. Short-term exposure results in redness of the skin and hair loss. Long-term exposure results in cancer. The UV exposure of people in the sun is high and is increasing. UV radiation can cause skin cancer and cataracts. Other radiation sources are radon and thorium from soil and building materials. The physical factors have mainly long-term effects, such as in the case of asbestos.

What are chemical factors and what influence do they have on health? Dioxins and polychlorinated biphenyls (PCBs) cause persistent contaminants and threaten health. Both are poorly degradable, tend to "stack" in human fatty tissue and are toxic. Ninety-five percent of them are obtained from food, especially by eating animal products. Dioxins are carcinogenic and probably have a negative impact on the immune system and fertility. There is evidence that the cognitive and psychomotor development of children might be affected negatively, by exposure during pregnancy and breast feeding.

A major source of pollution of the outside air is smog, in which the concentrations of nitrogen and hydrocarbons are increased. Health problems are associated with lung function symptoms (such as coughing, difficulty breathing, and tightness in the chest), irritated mouth, nose and throat, and eye irritation. People with disorders of cardiac blood vessels and/or the respiratory tract have the (same) often more serious health problems. Stench is also an important environmental factor, which is caused by the traffic and the industry. Associated health problems include headaches, dizziness, and nausea. However, stench can also have effects on heart rate and respiratory frequency. People with respiratory diseases (COPD), heart diseases,

and older people with a less favorable health status are at-risk groups for outside air contaminants. Also, children constitute a risk group, because polluted outdoor air can disrupt the development of the respiratory tract.

Air pollution is a striking problem; the concentration of pollutants is often higher indoors than outdoors, both at home and at work. Substances that give pollution indoors are carbon monoxide, fine dust, cigarette smoke, radon, and pesticides, and may also be released from building materials and household products. Health problems that can arise due to contaminants indoors are respiratory diseases. A new understanding of the effects of chemicals on humans concerns the hormone-disrupting environmental contaminants (xeno-estrogens), whose source lies in, among others, plasticizers and pesticides. Chemical factors have primarily long-term effects. Think of the deterioration of the kidney and liver function by prolonged exposure to solvents. However, when an individual is exposed to a peak load of chemicals, there may also be short-term effects, including headache and dizziness.

What are biotic factors and what influence do they have on health? Biotic factors are living organisms or residues thereof, such as micro-organisms in drinking or bathing water, which may be pathogenic. Allergens are biotic factors that come into play in the indoor environment and (like the chemicals), play a negative role in the indoor environment. Allergens come in indoor air quality through dust mites, mold, and pets. Exposure leads to sensitive respiratory systems and can lead to COPD and respiratory tract infections in children who are sensitive to them. Of the microorganisms that can occur in drinking water, the (fecally excreted) bacteria are important, such as *Salmonella*. Infectious diseases pose a threat to the health and cause health problems. The infection with diseases spreads through infection cycles, from human to human (polio), or through people, animals, or food. Biotic factors often have a short-term impact after exposure to viruses and/or bacteria. In addition, long-term effects can occur, owing to a cumulative or prolonged exposure.

What is the role of the nursing professional in the health determinant physical environment? Physical environmental factors threatening health will be stronger as they are different from the conditions to which humans are adjusted. This may be natural, environmental conditions or manmade circumstances. Whether physiological changes occur depends on the extent to which the body is able to respond. Unwanted health effects may be experienced, when the limit is exceeded between insignificant (physiological) changes and disease-causing changes in the human body. Health problems can arise when crossing that border and the quality of life can be affected. The physical environment affects the health and the onset of health problems, but the lifestyle and behavior, social environment, and medical care and prevention health determinants are much more important. However, the fact is that unwanted health effects are more likely to occur if the combination of health determinants is less favorable. For nursing professionals, it is important that they understand that exposures may (eventually) lead to health damage. When you analyze health (status) it is also good to look at the physical environment. Apart from the identification of (potential) threats to health, its guidance, advice, and reference are important focus areas. It is important to note that the physical environment may be one of the health determinants that affect health and the development of health problems.

2.5 External Environment: Health Determinant Social Environment

The exogenous health determinant social environment encompasses the influence of work, school, and family, SES, and social environment on health (status)

The social environment is the health determinant that, together with the physical environment, determines the external environment. This social, exogenous health determinant is concerned with the influence of work, school and family, SES, and social environment on health (status).

How does work influence people's health? Work is psychologically stressful and this stress is not only concerned with relationships between executives and colleagues, but also with the task complexity and (their own influence) on the schedule. For the health sector, this is often unfavorable owing to work pressure, lack of autonomy, and inadequate reward. The workload gives an indication of the psychosocial stress in the work situation. The pathogenicity of many of these health risks is particularly related to the insufficient amount of rest during and after work. This power handling is to some extent trainable. By dosing overload, step-by-step increasing workload, and adequate recovery, a person can increase power handling. Major problems associated with work and working conditions are absenteeism and incapacity for work. Health problems related to work are disorders of the musculoskeletal system, i.e., disorders of the spine, diseases of the soft tissue and joint disorders. Mental illnesses are also a problem for the working population, especially "responses to severe stress," mood disorders, adjustment disorders or anxiety disorders. Disorders of the musculoskeletal system are more common in men, mental illness in women. Increased psychological stress results in health problems such as headaches, sleep disorders, and depression.

What is the role of the nursing professional? The main objectives are to protect the health of the working population and where possible to promote health. This includes creating a conducive work situation in which factors that may have a negative impact on health are banned. Nursing professionals can offer (preventive) health care and guidance at work, and can contribute to preserving, protecting and promoting health in relation to work. Nursing professionals may have an observing and signaling task (for example, when the working conditions seem harmful to health or when there may be damage to health in the longer term). Health promotion and health education is becoming increasingly important within the setting of work, for example, motivating people to eat healthier food behavior or to exercise more.

What is the influence of school on health? As work is for adults, school is the social health determinant for children and young people. The school has an important responsibility in the promotion and protection of the physical and mental health of children and young people. It is important for the school to offer a safe environment, to have a view of the home environment of the child, to signal developmental disorders and problems in a timely manner, and, if necessary, to refer to experts. Schools can play a role in the promotion of a healthy lifestyle and behavior, for

example, promoting healthier food and movement behavior to prevent health problems such as overweight and obesity. Promoting healthy (nutrition and movement) behavior should be an integral part of the school program. For example, by offering physical education (by subject teachers), the integration of sport in school activities, making arrangements about nutrition and treats at school, and ensuring a better supply of food. Education can also contribute to promoting social independence. Health education is focused on learning take care of one's own well-being and that of others. Health promotion is also about monitoring health and safety. Safety is a major health problem for young people. The health problems of children and young people are often associated with growth and development, but also with problems with (social) skills and mental health. Major causes of mental health problems include genetic factors, brain damage or neurological abnormalities, problems with family relations, and with an unfavorable physical environment.

What is the role of the nursing professional? School-aged young people need extra attention because of the health problems that they may experience, with the emphasis on the prevention of mental health problems. Nursing professionals can have a signaling and accompanying task in periodic screening and referral if necessary. Nursing professionals can perform health promotion activities during consultation and they may be involved in developing and performing optimal school health policy. Nursing professionals may have an important function in identifying health problems and in providing targeted support. This allows nursing professionals to prevent or restrict unhealthy behavior. For example, they can identify and intervene early in weight problems, physical inactivity, and stress.

Do SES, social environment, and ethnic background affect health? Also, the SES of people is related to health (status). People with lower education, occupation or income level, have a less favorable health status. Those people have more physical and mental health problems, and we see demonstrable health differences in their experienced health and for their (healthy) life expectancy.

Are social relations affecting health? The higher the education level, the more positive experiences people have with social relations. Also, feelings of loneliness decrease as the education level becomes higher. Receiving social support is protective of the chance of getting cancer, cardiovascular diseases, and physical dysfunction. Social support has a strong effect on the course of an illness, but not on its occurrence. Receiving more social support is connected to lower blood pressure and lower serum cholesterol levels in the blood. Also, those who receive more social support have a better immune response and fewer stress reactions. Social support has a positive effect on the cardiovascular, immune, and neuroendocrine system of a human being. Mental health improves for people who receive social support. People who receive more social aid feel more appreciated. Also, they more frequently feel that actual help is available if the need should arise.

Mental health is reduced in people who receive little social support. People who feel lonely, have more depressive symptoms and more frequently have a burn-out. Also, absenteeism occurs earlier in people who feel lonely. In particular, the elderly experience less social support. This was measured by asking elderly people in a questionnaire, whether and to what extent they experience loneliness. Both in men

and in women, the number of positive experiences with social relations decreases with increasing age. The most solitude is seen among the elderly (75+) and among young people (18–24 years). Women say that they are lonely more often than men. Also, immigrants are more likely to be lonely, compared with the native population. In urban municipalities, loneliness is more common. People who say they have little social support and say that they are lonely, are more likely to be single people.

What factors lead to health differences? Especially when factors are combined, they lead to health inequalities. The factors of lifestyle and behavior that lead to health inequalities are not only the combination of smoking behavior and alcohol use, but also, the combination of low fruit and vegetable consumption and eating foods rich in saturated fats. Physical inactivity is a behavioral factor that is more often combined with being overweight, having reduced levels of protective HDL cholesterol, and having high blood pressure. Physical environmental factors that lead to health inequalities are working and living conditions. Psychosocial factors that lead to health inequalities are stress and decreased social support. In people with a lower SES, unhealthy behaviors are often seen, such as excessive alcohol consumption. Also, other lifestyle factors are less favorable within this group, such as drug use, safe sex, and sports participation. It is striking that in people with a lower SES there is more frequently a combination of adverse lifestyle factors, that is, the combination of factors determines the result of the health difference. People with a lower SES visit a GP more often and a specialist less often. We also see this in immigrant groups. Chronically ill people with a low SES also make less appropriate use of medical care and less adequately match their lifestyle to the changes needed because of their illness. People with a lower SES are less informed about all kinds of matters relating to health; they tend to have less health knowledge and fewer health skills. They also have less easy access to preventive measures, health promotion, and health education.

What is the role of the nursing professional? Nursing professionals aim to ensure health inequalities if possible. If health care were to respond to the differences in health, then a different distribution of health care should be an option. This means that where the health is the worst, most attention is required. This would mean that visiting nursing professionals should be more available in places where many people from disadvantaged groups are living. Nursing professionals should signal early and handle accordingly. It is also important to initiate preventive interventions which target health problems. Nursing professionals working in public health service play an important role in reducing health inequalities.

- **Who, active participation**. "Development of healthy individuals can only happen when people actively participate in the improvement of their own health" (WHO 1999). If people participate in improving their own health, this reduces health problems and improves the state of health of the (world) population http://www.who.int/whr/1999/en/. Initiatives are concerned with health promotion: healthy schools, healthy workplaces, healthy hospitals, and healthy cities. Also, the World Health Report (1999) described initiatives that are needed to empower patients.

Empowering patients is concerned with how patients can learn to prevent health problems, and how to deal with being chronically ill. Self-management is about how patients can handle their own health and improve their self-management behavior.

2.6 Exogenous Health Determinant: Medical Care and Prevention

Exogenous health determinant – medical care and prevention

Positive effects: decreased mortality rates, better quality of life, premature care and treatment

Adverse effects, iatrogenesis: antibiotic resistance, hospital-acquired infections and side effects of medicines

Medical care and prevention is the last exogenous health determinant from the Health Concept Lalonde Report.

What are the positive effects of medical care and prevention? Medical care and collective prevention contribute to the decrease in overall mortality. Medical care and collective prevention make an important contribution to the quality of life. For example, we see a favorable trend in the mortality and morbidity of stroke and coronary artery disease (especially for heart attacks), owing to both improved treatment and changes in lifestyle. Improvements in diabetes care have also been seen, meaning fewer complications and better treatment in primary care and outpatient clinics. Anxiety disorders and depression are nowadays signaled early by the family doctor, the therapeutic treatment options have improved, and people seek help themselves earlier. The same thing occurs in diabetes patients, the health problem is signaled earlier by family doctors, the care, treatment, and prevention options have been improved, and patients with symptoms seek suitable care and treatment.

Prevention should be an explicit and integrated part of medical care. Integrated care offers the patient the optimal "loop" through the circuit of prevention and medical care. It is also about the continuity of cure and care. In projects with integrated care, this is revealed to improve the state of health of the patient. One of the conditions is the presence in the chain of a transmural nursing professional, who, owing to her contacts with all health care establishments concerned, can work on a customized solution for the patient, preparing and guiding it. Nowadays, citizens are more empowered and increasingly focused on having no health risks. People have high expectations of medical care and prevention and do understand the fact that health care facilities are not a solution to everything. This citizen is often knowledgeable about health and about the medical possibilities. Consequently, also as a result of medicalized life problems, the demand for the care of citizens is increasing.

Many health problems are caused by smoking, high blood pressure, and obesity. The number of people with a chronic condition as a result of unhealthy behavior is increasing. Also, medical science is extending the life expectancy of people with chronic conditions. An unhealthy lifestyle and unhealthy behavior cause expenditure on medical care and prevention to increase. The cost, however, cannot be reduced merely by a healthy lifestyle, because prevention also costs money and people develop substitute diseases. There is insufficient innovation in care and prevention and the quality of cure and care is stagnating because of a shortage of innovation and investment. For example, pilot projects in integrated care that have been shown to be successful have not been implemented.

Especially in recent years, medical care and prevention has had an ever-greater impact on the extent of (healthy) life expectancy as a result of (expensive) developments in medical technology. Seventy percent of patients who survive after treatment for coronary heart disease do so because of technological change and improvements in prevention and treatment options. In the remaining 30% of patients, survival is related to lifestyle changes and improved diagnostic procedures. The intertwining of care and cure should be realized, for example, in hospitals and the workplace. Multiprofessional guidelines and multiprofessional education can add to this.

What are the adverse effects of medical care? What is iatrogenesis? Major adverse effects of medical care are caused by the emergence of antibiotic resistance, hospital-acquired infections, and the side effects of medicines. Antibiotic resistance hinders the treatment of diseases and disorders in the long term. Health problems that are related to hospital-acquired infections are urinary tract infections, surgical site infections, and infections of the lower respiratory tract. Hygiene plays an important role in hospitals; however, the percentage of hospital infections is expected to increase as a result of resistant microorganisms combined with ageing of the population. Side effects of medications may arise in the course of its normal use or because of genetic or physiological factors. These side effects are more common in women than in men and they are mainly used at a more advanced age. This is the result of polypharmacy and dosage. Medicines with many side effects are antirheumatics, antihypertensives, and antidepressants. An important "side effect" of medicines is that they have a clear role to play as (co-)causes of accidents. Medication use is still increasing, including "over the counter" medicines. Adverse effects of medical care may also arise because therapies or (prolonged and repeated) intensive treatments have an uncertain or only a temporary effect. Also, treatment can result in severe disability, or harmful side effects may be experienced. Adverse effects of medical care are also referred to by the term "iatrogenesis."

What is the role of the nursing professional? Nursing professionals have a signaling task, focused on the need of the patient for medical care and prevention. In consultation with the patient, in a process of shared-decision making, the nursing professional and the patient should make a tradeoff of which care is necessary and desirable in a given situation and what lifestyle and behavioral changes are necessary and desirable. Nursing professionals should focus both on health care and on the promotion and protection of health. The positive and negative health effects that might occur because of medical care and prevention play a role in this decision-making process. Furthermore, the task of nursing professionals should also be to inhibit the improper use of medical care and prevention.

- **Health 2020**. Health 2020 is the new European framework of health policy. The purpose of this policy framework is the improvement of the health and well-being of the population. The existing health inequalities should be reduced. Public health should be strengthened and health care systems should be more durable and have a high quality. Good health is vital for economic and social development and supports economic recovery. Health 2020 provides a vision, a strategic path, a set of priorities and a range of suggestions on what works for health and what works for the elimination of health inequalities. The attention should also focus on the health of future generations. Health 2020 was determined in 2012 by the 53 member states of the European Region. This policy framework was necessary, because Europe is changing and this affects health and requires new ways of thinking and acting. Although in the European Region as a whole, significant improvements in health have occurred over the last few decades, these improvements are not for everyone. There remain significant differences in health and these differences are increasing. http://www.euro.who.int/en/health-topics/health policy/health-2020-the-european-policy-for-health-and-well-being/about-health-2020/what-are-the-key-components-of-health-2020

References

van Bezooijen CFA. Veroudering. In: Ruwaard D, Kramers PGN, editors. Volksgezondheid toekomst verkenning. De gezondheidstoestand van de Nederlandse bevolking in de periode 1950-2010. Den Haag: Sdu Uitgeverij; 1993. p. 547–52.

Bijl RV. Welke factoren beïnvloeden de kans op schizofrenie? Welke factoren beïnvloeden de kans op depressie? In: Volksgezondheid toekomst verkenning. Nationaal kompas volksgezondheid. Bilthoven: RIVM; 2001.

Cornel MC. Aangeboren afwijkingen van het centrale zenuwstelsel. In: Volksgezondheid Toekomst Verkenning. Nationaal Kompas Volksgezondheid. Bilthoven: RIVM; 2004.

Hoek HW, Kahn RS. Erfelijkheid en omgevingsfactoren in de etiologie van schizofrenie. Ned Tijdschr Geneeskd. 1995;139:498–501.

Lalonde M. A new perspective on the health of Canadians. A working document. Ottawa: Government of Canada; 1974.

Maas IAM, Jansen J. Psychische (on)gezondheid: determinanten en de effecten van preventieve interventies. RIVM Rapport 270555001. Bilthoven: RIVM; 2000.

RIVM. Zorg voor gezondheid. Volksgezondheid Toekomst Verkenning. Bilthoven: RIVM; 2006.

RIVM. Volksgezondheid Toekomst Verkenning, Nationaal Kompas Volksgezondheid. Bilthoven: RIVM; 2011.

Sassen B, Cornelissen VA, Kiers H, Wittink H, Kok G, Vanhees L. Physical fitness matters more than physical activity in controlling cardiovascular disease risk factors. Eur J Cardiovasc Prev Rehabil. 2009;16(6):677–83.

WHO. The World Health Report 1999: making the difference. Lyon: World Health Organization, WHO Library Cataloguing in Publication Data; 1999.

Willemsen MC. Roken samengevat. Hoeveel mensen roken? Neemt het aantal mensen dat rookt toe of af? Hoe is het aantal rokers terug te dringen? In: Volksgezondheid Toekomst Verkenning. Nationaal Kompas Volksgezondheid. Bilthoven: RIVM; 2004.

Prevention Within the Nursing Profession

3

The basic understanding in health is prevention. Prevention is concerned with preventing health problems by optimizing the conditions for health and preventing adverse factors from affecting it. In prevention, the promotion and protection of health is an important means of arriving at an optimal state of health for patients. This chapter discusses concepts that are used within prevention. We describe in Sects. 3.1–3.3 the various forms of prevention. Within professional nursing practice, we distinguish universal, primary prevention; selective and indicated secondary prevention; and, care-related, tertiary prevention. We describe the importance of the involvement of the patient in prevention. Section 3.6 describes the levels of prevention (individual- and collective-oriented prevention). Prevention is focused on health behavior and Sect. 3.7 is about the complexity of behavior. Section 3.8 is dedicated to health protection. Section 3.9 describes health promotion together with health education and in Sect. 3.10 the focus is on disease prevention, together with patient education and self-management. The effectiveness of prevention, among other things by combining intervention strategies, is discussed in Sect. 3.11. Finally, Sect. 3.12 reports the intertwining of cure and care, and the way to the future with care leading to prevention.

What is the purpose of prevention? In prevention, one tries to optimize the conditions for health and to minimize the factors that affect health. With prevention one tries to prevent health problems, and to outsmart "disease." The point about prevention is to make the conditions of health for the patient as favorable as possible. Prevention is also aimed at ensuring that people stay healthy. Prevention can be described as the total measures, both within and outside health care, that aims to monitor and promote health by preventing health problems and diseases. Of great importance to prevention is achieving changes in lifestyle behavior whereby people become and remain healthier. Prevention is carried out both in general health care

B. Sassen, *Nursing: Health Education and Improving Patient Self-Management*,
DOI 10.1007/978-3-319-51769-8_3

and in mental health care. Prevention covers the whole area of the nursing profession. Prevention in mental health is defined as preventing – in the broadest sense – serious mental health problems.

For nursing professionals, prevention is both a part of the daily care given to patients and a specific activity. Together with other professional groups in the health care system, they try to prevent health problems. When health problems still arise, nursing activities are targeted at minimizing the consequences. Both nursing professionals and patients recognize the need for and the importance of prevention. For example, in the elderly – with an increase in life expectancy – the number of years that are spent in ill health has increased. Therefore, preventive activities aimed at this target group are important. Caregivers often see that extending their preventive activities aimed at promoting health leads to more health benefits than the limited focus on health care after damage that has already been incurred. Prevention includes all activities that are aimed at the prevention of health problems that affect the quality of life. Prevention can be classified into different forms of prevention (Fig. 3.1). The nursing practice consists of an intertwining of these different forms of prevention, ranging from universal, primary prevention to tertiary, care-related prevention. Apart from this format, there are other forms of prevention in the nursing profession. Prevention may be classified according to the health problem (for example, cardiovascular diseases), or the disease category (chronic diseases), and the risk factors or symptoms may also be the starting point for the format.

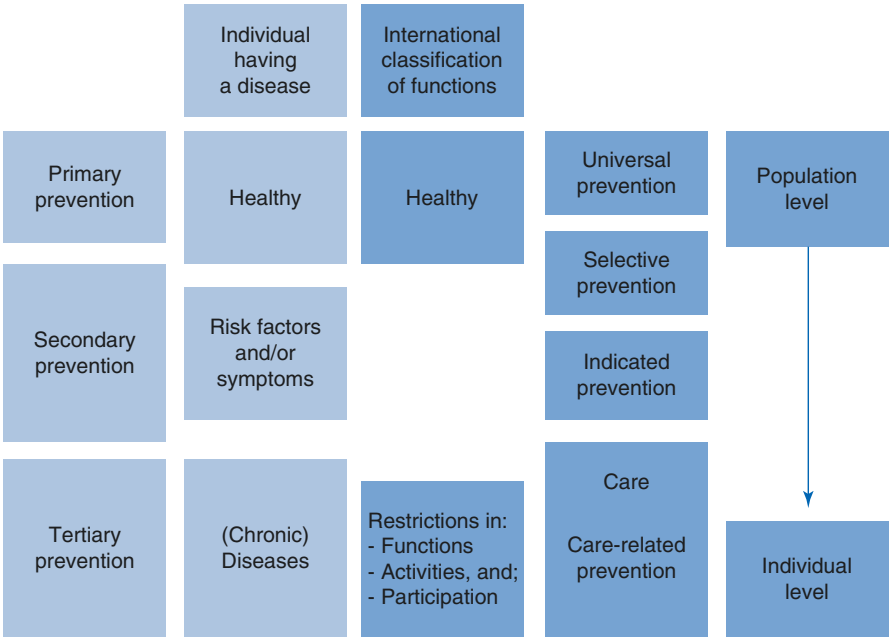

Fig. 3.1 Forms of prevention. Source: Dutch Healthcare Insurance Board (2007)

3.1 Universal, Primary Prevention

Universal, primary prevention: to promote health and healthy behavior.
Individual behavioral approach and environment-oriented approach by nudging.

What is universal, primary prevention? Universal, primary prevention is prevention focused on the health of the general population or a part thereof. The goal of universal, primary prevention is to prevent diseases and illnesses and so decrease the incidence and prevalence of diseases and illnesses. Universal, primary prevention is concerned with promoting health and healthy behavior. To target the creation of a health problem that may occur, we need to know the causes of that health problem. Causes of a health problem may be personal characteristics and/or risk factors. In practice, this means that one must have insight into the personal characteristics and/or risk factors showing that there is a relationship with the health problem. If there is a demonstrated link between a personal characteristic and/or risk factor and a health problem, this can be the input for prevention. Except for exposure to the risk factor itself, prevention is focused on the effects of exposure.

For universal, primary prevention, the nursing professional chooses the individual, behavioral perspective as an angle, but reasoning from an environmental perspective is increasingly gaining attention. The environment-oriented approach to prevention is becoming more prominent. An environment-oriented approach to prevention also involves the social and physical environment of the patient in nursing activities aimed at the promotion of health and the prevention of health damage. Environmental interventions directed at promoting health should be nudging, this means that interventions should give people a friendly nudge toward a healthy lifestyle (van den Berg and Schoemaker 2012). Examples of environmental interventions that are nudging is a domestic environment that invites you to take the bike, or a social environment at work or school that encourages you to eat more healthily, or persuades you to be physically active.

What are relevant examples of universal, primary prevention for nursing professionals? Examples of universal, primary prevention are youth vaccinations, attention to oral hygiene, safe sexual behavior and (passive) smoking. Infants and young children should be vaccinated against diphtheria, whooping cough, typhoid, polio, and measles. Caries prevention focused on good oral hygiene is necessary for children aged 0–4 years, because at least 50% of 5- to 7-year-old children have caries in their deciduous teeth. When in a learning package, attention is driven toward brushing teeth in primary education (for children in the age that the permanent dentition develops), we call this universal, primary prevention. Another example is the prevention of sexual violence in children, by increasing the resilience of children. In an education program, resistance of children can be enhanced to better monitor their own borders, possibly by learning through role play and theater. A second goal is

the prevention of secondary victimization, i.e., preventing feelings of guilt in children because they were unable to prevent the abuse. Also, countering unwanted intimate behavior and unprotected sex by promoting condom use, is a form of universal, primary prevention. Universal, primary prevention is also preventing children from passive smoking. In about 45% of the households, children are exposed to one or more smokers. Preventive activities of nursing professionals should be aimed at informing parents about the health risks associated with passive smoking. If parents themselves do not want to quit smoking, the intervention should be aimed at not smoking in the proximity of the child.

An example of universal, primary prevention for the elderly is to optimize movement and feeding behavior. Physical activity has a positive effect on, for example, osteoporosis, cardiovascular diseases, and diabetes. If people move moderately, but especially when they are moving at a high intensity level, risk factors for cardiovascular diseases and type 2 diabetes, such as high blood pressure, high cholesterol and glucose levels in the blood and abdominal obesity, are improved (Sassen et al. 2009). A physically active lifestyle further limits the risk of falls in older people, by improving muscle strength. A physically active lifestyle not only reduces physical limitations, but also promotes sleep and improves mood and the overall sense of well-being. Exercise has a beneficial effect on the maximum lung capacity and muscle strength. Universal, primary prevention can also focus on preventing chronic health problems. Healthier dietary behavior is aimed at decreasing the calorie intake, reducing the consumption of saturated fats, and boosting fruit and vegetable consumption.

3.2 Selective, Indicated, Secondary Prevention

Secondary prevention is the early search for and detection and treatment of diseases and disorders.

Selective prevention is aimed at people who are at a high risk, the so-called high-risk group.

Indicated prevention is aimed at people who do not meet the diagnostic criteria for a disease or condition, but have limited symptoms.

What is secondary prevention? Secondary prevention is the early search for and detection and treatment of diseases and disorders.

What is selective prevention? Selective prevention is on the cutting edge of primary and secondary prevention. Selective prevention is focused on that part of the population who are at a high risk, a so-called high-risk group.

What is indicated prevention? Indicated prevention is secondary prevention aimed at people who do not meet the diagnostic criteria for a disease or condition, but have limited symptoms that give an indication of a health problem. Selective

and indicated prevention are aimed at the discovery and early treatment of diseases and disorders and the search for diseases and disorders at an early stage. In selective prevention, the starting point is a high-risk group; for indicated prevention, there is already a limited indication for a health problem. Selective and indicated prevention may be aimed at diseases and disorders, but also includes the detection of risky behavior. Examples of selective prevention with a "high-risk"-approach are the detection of familial high blood pressure or diabetes type 2. Examples of indicated prevention, i.e., the detection of diseases and disorders at an early stage, are tracking down people in the first stages of a venereal disease such as gonorrhea, the early detection of dementia and other age-related diseases. An example of the detection of risky behavior is the use of food rich in saturated fat in people with high cholesterol levels. By detecting the health problem earlier, one tries to ensure a better prognosis. This is because an early start with medical and nursing activities will probably improve the health situation. Selective, indicated prevention involves favoring the prognosis of the health problem; it may reduce the treatment load, or it may reduce the sequelae.

3.2.1 Screening

An important tool for indicated prevention is screening. By using screening, one tries to investigate at an earlier stage the presence of a disease or condition, or behavior that harms health. The diagnosis is established at an earlier point in time, which means that treatment can be started earlier. The effects of the disease or condition or behavior with an adverse impact on health may be limited or delayed.

What are relevant examples of screening for nursing professionals? Examples include breast cancer screening, screening for language development, screening for eye diseases, and screening on oral health. Breast cancer screening is the only way to reduce mortality from breast cancer and to achieve health gains. Because the risk factors for breast cancer are unknown, universal, primary prevention is not possible. In the screening for language development, a delay in language development can be detected. This is shown frequently in children, and causes serious problems in social and emotional development later in life. Dyslexia is an example of a problem in language development, i.e., the inability to learn to read at a certain level and often also to write, despite normal intelligence. For screening, a language signaling instrument for 0- to 3-year-old children with delayed and/or different language development can be used, to detect any problems early, and early intervention has been shown to prevent a language deficiency. In the screening for eye diseases, early detection by screening of strabismus is important, and can be solved in most children with this condition (Dickey 1999). For strabismus, the early detection and deployment of treatment by alternate taping of the eyes at a very young age delivers a significant improvement and gives a good chance of obtaining a monocular image. In oral health screening for children in primary schools, the detection and treatment of dental plaque and dental

erosion can optimize the status of children's teeth. Children are taught to brush and floss their teeth daily to remove dental plaque, and to drink less soft and fruit drinks.

3.2.2 Patients' Delay and Doctors' Delay

For screening, the diagnosis can be highlighted in time in two ways. In the first way, people are screened that do not show any symptoms of disease. We call this the screening of asymptomatic people. In those individuals where symptoms of disease are detected, one starts treatment to achieve health gains. In the second way, screening is directed at preventing the setting of the diagnosis from being delayed.

What patients' delay? Delay can arise because a patient with obvious symptoms is not diagnosed, because he has not visited a doctor in time. An example is that a patient with changes in a nevus or mole on his skin does not visit the general practitioner or family doctor. This delay in diagnosis is called patient's delay.

What is doctors' delay? Delayed diagnosis may also arise because a doctor does not establish the diagnosis in time, or incorrectly. An example is that a doctor may have insufficient knowledge about abnormalities in the skin and skin diseases. This delay in obtaining a diagnosis is called doctor's delay. Delayed diagnose counteracts appropriate medical treatment and nursing care. Both patients' and doctors' delay can be alleviated by targeted education.

> ▶ Patients' delay. After a community screening for hypertension, it was found that for half of the patients with high blood pressure, the reference was not followed and no doctor was visited. Of the people who have visited a doctor, it was found that a third of the patients discontinued the treatment of hypertension within a few months (Hynes in: Lerman 2005).

3.2.3 Case-Finding

Case-finding is a type of screening in which a specific group of people (and not a whole population) is conducted for a risk factor, risky behavior, and/or health problem. Case-finding is a high-risk approach and is called selective prevention. Case-finding is aimed at people who have more impacting aspects (risk factors, risk behaviors, and/or health problems) at the same time. An example of case-finding by general practitioners and practice nursing professionals is the screening of people with high cholesterol levels in the blood and present familial hypercholesterolemia. Case-finding is concerned with healthy people with a particular risk profile. In the screening for high cholesterol levels, cholesterol-lowering drugs are often prescribed. Because the risk profile in cases of hypercholesterol can also result from lifestyle factors, lifestyle advice can be offered in addition to medication prescription. Another example of case-finding by general practitioners and practice nursing professionals is the screening for diabetes mellitus. By

considering fasting blood glucose levels and present familial diabetes, diabetes can be detected in an early stage, or the case-finding of diabetes in people with abdominal obesity and high blood pressure. After case-finding, diabetes treatment is started and directed at the early detection of symptoms. The screening for diabetes mellitus will possibly be extended in the future. Currently, there is insufficient evidence that large-scale screening of persons without any complaints is effective and efficient.

Case-finding is in fact the counterpart of the population approach. In population surveys, a population-oriented approach is used in which (a clearly defined part of) the healthy population is systematically examined. The population research can focus on a risk factor, risky behavior and/or health problem. By using case-finding, screening of nonhealthy people with a particular risk profile is undertaken. The case-finding is focused on a risk factor, risky behavior and/or health problem. Treatment is known to be efficient and effective.

A question that is becoming increasingly important is whether the screening of high-risk groups should be imposed because of general interest or should always be the choice of an individual himself. The screening of high-risk groups from imposing a general interest to people is called the public health imperative. The screening of high-risk individuals is described as an individual informed choice, as the screening of high-risk groups is an individual choice, with the prerequisite that a person is well informed about the screening.

The main stumbling block for the effectiveness of case-finding or the high-risk approach is the involvement of the medical profession. For the medical profession, case-finding leads to a higher work load in the short term, with only possible health benefits in the long term. For some reason (working pressure, financing structure), the medical profession does not include prevention in care and treatment, whereas prevention would produce significant health gains.

In screening, the positive and negative effects that an intervention may have should always be weighed up. On the one hand, the early detection of a health problem (for example, in breast cancer screening) gives the possibility of an earlier and thus more successful treatment. On the other hand, screening may and often does cause anxiety. Another factor is that screening may give rise to uncertainties and false-positive results may emerge. As a result, further testing is sometimes necessary.

Can people cope well with the symptoms they experience? For secondary prevention, it is important that people cope well with the symptoms they experience. For 10–25% of the times that people experience symptoms of a disease, this results in contacting a doctor. Many people use over-the-counter medication before they visit a doctor. Older people often have one or more symptoms of a disease, but are less likely to report this because they see them as related to older age. Is this a case of patient's delay? Elderly people typically underestimate general symptoms, such as headache, nausea, coughing and fatigue, which everyone experiences from time to time and that can be attributed to physical, mental or social conditions. However, elderly people do recognize specific symptoms of a particular disease as being important because of the knowledge they have obtained through health care providers, the media, social observation, and analysis based on life events.

People seem to become increasingly better able to recognize early symptoms. Also, those people with mental health problems (such as anxiety disorders and depression) are becoming better at recognizing early symptoms and search for help; in addition, people with diabetes mellitus contact health care professionals earlier than in the past.

Can people cope well with symptoms of cancer? Do people with symptoms of cancer exhibit the desired help-seeking behavior? In an investigation of the relationship between knowledge about cancer-related symptoms and whether to consult the doctor, we see some differences. The question in one study was, for what kind of symptoms would patients decide to consult a doctor. Most people have little knowledge of symptoms related to cancer and do not have the desired help-seeking behavior. Even if people do know what symptoms are indicative of cancer, it turns out this is not enough to proceed with seeking help. The reason for this seems to be that cancer causes anxiety and other negative feelings. Recognizing symptoms makes people afraid that they may indeed have cancer. This results in them avoiding screening programs (Sheikh and Ogden 1998).

3.3 Care-Related, Tertiary Prevention

Care-related, tertiary prevention, optimizing health, even though people have a disease or health problem.

Patients meet the criteria to be diagnosed with a health problem.

The goal is to optimize the health situation with given physical and/or mental disorders, limitations or handicaps.

What is care-related, tertiary prevention? Care-related, tertiary prevention is aimed at people who meet the criteria to be diagnosed with a health problem, and optimizing the health situation, even though a person has an existing disease or condition. This includes optimizing the health situation within the possibilities and with the restrictions imposed by the disease or condition. With health care-related tertiary prevention, one seeks to prevent the manifestation of the health problem, leading to complications and the emergence of persistent disorders, limitations or handicaps. Care-related, tertiary prevention consists of care and treatment for patients.

What are nursing-relevant examples of care-related, tertiary prevention? An example is to physically and mentally activate (bedridden) people with a (severe) mental disability. Rehabilitation after stroke is another example, or learning to pick up the threads of life after a severe depression. It is always directed at optimizing the health situation with given physical and/or mental limitations. Health care-related, tertiary prevention is often an important element of the care for patients with chronic health problems and is aimed at promoting self-management of the patient.

Strictly speaking, care-related, tertiary prevention has little to do with the prevention of diseases. Care-related, tertiary prevention is specifically intended to assist patients to be as care-independent as possible. For nursing professionals, the starting point of their care delivery concerns this care independence of the patient.

What is casuistic prevention? Care-related, tertiary prevention is closely linked with casuistic prevention. Casuistic prevention is closely linked to the care of the patient and his environment. This form of prevention is called casuistic, because it is directly associated with the individual care situation of the patient, and in that sense, with the provision of specific care. An example of casuistic prevention is an intervention to optimize self-management for patients with COPD. Adults with COPD are offered an intervention to better cope with the condition, to optimize their health situation and to prevent the improper use of health care facilities. The intervention in this example consists of a self-help book combined with various interventions to optimize cognitive skills and patient compliance, with the goal of reaching appropriate medication use, in addition to learning to seek social support.

What is the role of the patient in prevention? For prevention to be successful, the involvement of the patient is of utmost importance. In the case of universal, primary prevention, the role of the patient as the receiver of prevention can be limited. But in selective and indicated, secondary prevention, and certainly in care-related, tertiary prevention, this is not possible. Without the involvement of the receiver, prevention is often doomed to failure.

3.4 Classifications of Prevention

The forms of prevention (primary prevention, secondary prevention, and care-related, tertiary prevention) that have been described in the previous paragraphs, can be differentiated, but not usually separated, as the professional practice of nursing professionals shows. In sexually transmitted diseases, for example, successful secondary prevention using screening and (early) treatment is of great importance. However, there should also be a focus on universal, primary prevention, which is aimed at changing the risky behavior so that transmission does not take place. Another example is depression in the elderly. For the long-term prevention of depression, secondary prevention, with the screening of early symptoms of depression, and care-related, tertiary prevention in the form of treatment are important, but should also include changing lifestyle factors and behavior, such as increasing self-management, improving medication use, teaching appropriate coping strategies to deal with loneliness, and to learn to seek social support.

Combining the different forms of prevention (primary prevention, indicated prevention, and care-related, tertiary prevention) gives the best chance of health benefits. Within the professional practice of nursing professionals, the various forms of prevention can be seen at the same time, even at the level of the individual patient.

An example of this is dental caries prevention in a seriously ill child with leukemia. For primary prevention, the focus is on the prevention of tooth decay, and for care-related, tertiary prevention the focus is on dealing with the physical and mental limitations that result from living with a major disease such as leukemia, improving self-management, incorporating desired lifestyle changes, such as maintaining a healthy rest and school rhythm, drug use, etc. The various forms of prevention are clearly aligned and, certainly within the nursing profession, inextricably linked.

Figure 3.1 shows the different forms of prevention schematically placed in relation to each other, with primary prevention, secondary prevention and tertiary prevention (care) in the first column. When one starts looking at the individual level of a disease in the second column, they range from healthy people, people with risk factors and/or symptoms, to people with (chronic) disease. The International Classification of Functions (ICF) is shown in the third column, running from being healthy to having restrictions in functions, activities or participation. Universal prevention is the starting point and is usually aimed at the whole population or at larger parts of the population (see columns 4 and 5). Then, selective and indicated prevention describes in the figure the transition to care and care-related prevention. Selective prevention, at the interface between primary and secondary prevention, focuses on high-risk groups. Indicated prevention is aimed at people who have limited symptoms of a health problem. Finally, it is clear from the figure that care-related prevention is focused on the individual, often the individual patient, who meets the criteria for being diagnosed with a health problem. Universal prevention runs right on with primary prevention. Selective and indicated prevention is (almost) the same as secondary prevention. Finally, care-related prevention as a whole is also equal to tertiary prevention.

The forms of prevention as they are described above may also be seen as stages in the disease process. In Fig. 3.2, the disease process in time is displayed (Gunning-Schepers et al. 1995). From a nursing point of view, it starts with universal, primary prevention. Universal, primary prevention is followed by secondary prevention and finally by care-related, tertiary prevention. In the first stage, universal, primary prevention is aimed at preventing health problems in a person (with a possibly increased risk). In the second stage, the phase of the early detection of a health problem, the goal is aimed at setting therapy to improve the prognosis of the health problem. The third stage, with care-related, tertiary prevention, starts if the health problem has become manifest. The goal at this stage is to prevent the existing disorder from becoming chronic and complications and/or restrictions resulting from the health problem from arising.

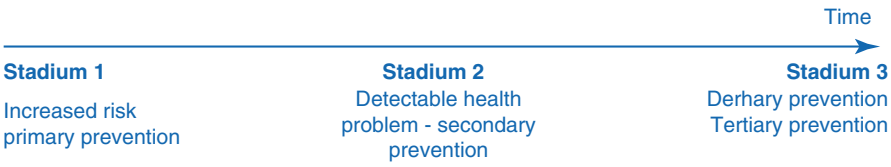

Fig. 3.2 Stages in a disease process. According to: Gunning-Schepers et al. (1995)

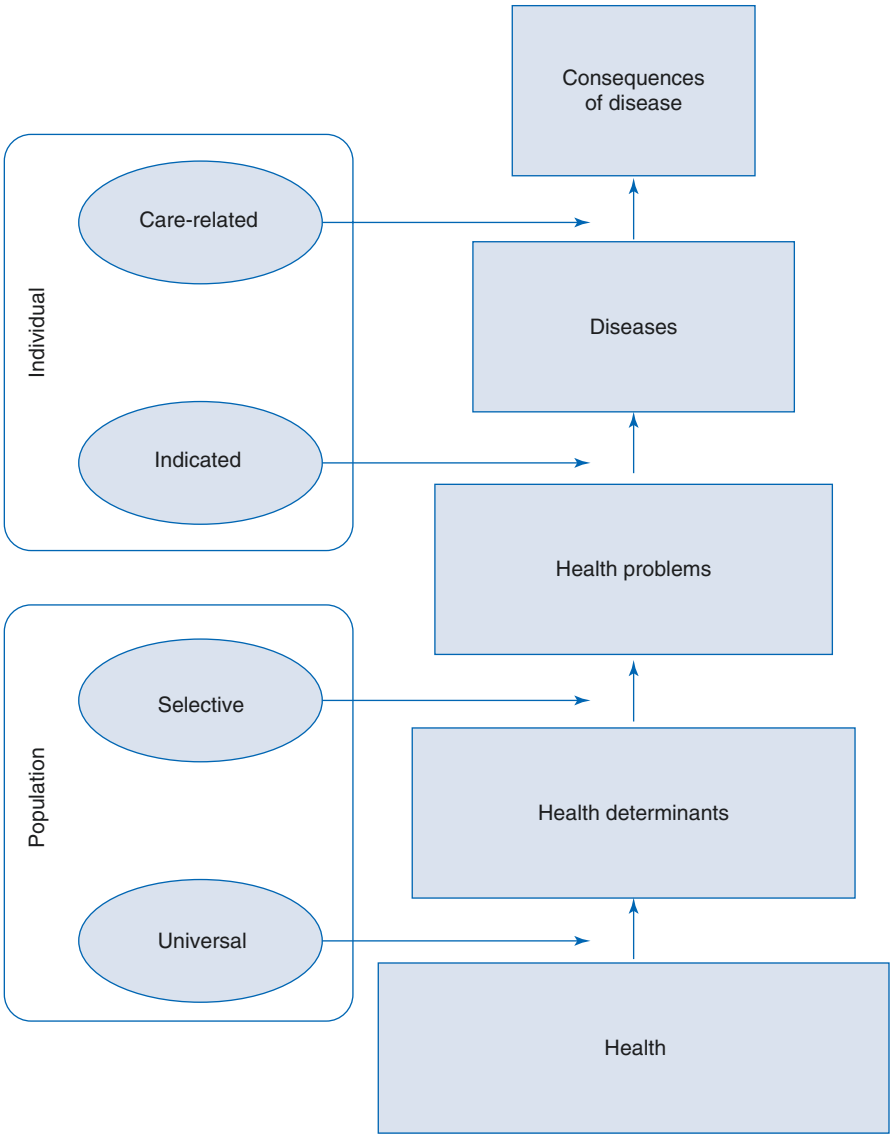

Fig. 3.3 Objective tree of prevention. According to: van den Berg and Schoemaker (2012)

Finally, the objective tree of prevention (Fig. 3.3) (van den Berg and Schoemaker 2012) shows a way of keeping the various forms of prevention clear. The objective tree of prevention offers a schematic representation of prevention and health. On the one hand, healthy people and on the other hand, sick people with the consequences of sickness. The tree firmly anchors health in the soil. Focused on health and health determinants, universal and selective prevention are offered, more often at a collective, population level. If health problems have

arisen, health problems and the consequences of sickness are the starting point for indicated prevention and for care-related prevention, more often at an individual level.

3.5 Levels of Prevention, Individual, and Collective Prevention

Levels of prevention:

Individual prevention is offered to a person with an individual (high) risk, to prevent, to reduce or treat the risk – high-risk approach.

Collective prevention is offered to a specific group in the population or to the population as a whole, directed at a health risk with a common character. Detecting the risk factor decreases the chance that the risk factor in the entire population leads to diseases or conditions – population approach.

Prevention paradox.

Anonymity of prevention.

Prevention should improve the state of health of the individual, of groups, and eventually of the whole population. We make a distinction between individual prevention and collective prevention, where the starting point is the scale.

What is individual prevention? We speak of individual prevention in an individual person with an individual (high) risk who is using health care facilities to prevent a risk, to reduce the risk, or to treat the risk. In this case, the nursing professional provides care to an individual patient with a health risk related to his physical, mental, and/or social situation. The goal of individual prevention is to prevent threatening factors from acting on human health, to limit further damage to the health or to supply specific care. An example is the targeted prevention of allergies in infants, or oral care in the elderly.

What is a high-risk approach? Individual prevention employed by nursing professionals, is also called the high-risk approach. To implement individual-based prevention, it is often difficult to track down the person who is at a high risk. However, individual-oriented prevention is an efficient use of resources.

What is collective prevention? In the case of collective prevention, there is a known health risk, and health care facilities are offered to groups in the population or to the population as a whole. The risk factor is detected to reduce the possibility of the risk factor leading to diseases or conditions in the whole population. For nursing professionals, collective prevention means offering targeted care, with emphasis on reducing the chance of a disease or condition. An example is the vaccination of young children, the flu shot in older adults, hearing research in occupational health care, or the early detection of depression in young adults and the elderly. For nursing professionals, the effectiveness of the collective-oriented preventive activity is

usually clear. This means that the targeted care provision will lead to an actual improvement in the health status of the groups of people approached.

What is meant by a population approach? Collective prevention implemented by nursing professionals is also called the population approach.

Are health benefits related to *both individual and collective prevention?* As we have seen, prevention is about achieving health gains. In the case of collective prevention, more health benefits are to be expected than with individual prevention. The individual approach is much more labor-intensive for nursing professionals.

What are the pros and cons? An advantage of the collective approach is that large groups of people can achieve the same underlying goal. The collective approach works efficiently and effectively. A disadvantage of the collective approach could be that a person is not motivated to participate in the prevention, because he assesses his individual risk as rather low. This is called the prevention paradox.

What is a prevention paradox? By making use of the collective approach in prevention, the so-called prevention paradox can arise. Intervening in the way of life of the population can have a marked effect on the population as a whole, but the individual advantage might be limited. Important effects are seen on the state of health of the population as a whole, but the individual person achieves few health benefits. In the list of advantages and disadvantages, finally, there is the problem of the anonymity of prevention.

What is the anonymity of prevention? Widely implemented programs focused on collective prevention, are also complicated by the setting of the target group, with the question: who will benefit from a collective prevention program? This problem is called the anonymity of prevention, because the people who benefit from the prevention program remain invisible. This may be a threshold for an organization to invest in prevention, even though the effectiveness of a prevention program is demonstrated.

3.6 Prevention and the Complexity of Health Behavior

Health behavior, can be described as the lifestyle or the behavior of patients with a positive or negative impact on health.

Is health behavior always voluntary behavior?

Is a risk assessment necessary?

Do health motives always play a role?

What is meant by the health behavior of a patient? In prevention, the goal is to decrease health problems and limitations in function, activities, and/or participation (following the ICF) that have an impact on health and the experienced quality of life, and, by implementing prevention-oriented interventions, we aim to increase the quality of life. Targeted prevention of health problems and limitations can be achieved by

promoting health. Changing the lifestyle and (health) behavior of people is often the means by which to achieve health gains. For prevention, achieving a change in the lifestyle or (health) behavior of the patient is important. For prevention, nursing health professionals often see clearly that lifestyle and (health) behavior has a major influence on health and health problems. Lifestyle affects a patient's health, is related to the maintenance of his health, and may be related to causing damage to his health. We We speak of health behavior as lifestyle, and this health behavior or lifestyle can have a positieve or negative impact on health. Health behavior can be explained "on account of the choices that people make and the considerations that play a role […], and precisely those considerations are seen as determinants of behavior". Also: "The idea is that people integrate and balance the ideas they have, we call that cognitions. The result is a preference, which expresses itself in behavior" (de Vries 2000).

Health behavior may therefore be the result of the balancing processes that a person makes, and this is referred to as a conscious process. Health behavior can also be less aware behavior. People can act on their feelings, a hunch, a certain automatism or a particular habit. Health behavior is complex behavior. Also, because it is influenced by the people around an individual, and to be able to behave in a healthy manner, they may need specific skills.

Next, we describe a number of important considerations for health behavior: the importance of voluntary behavior; experiencing health risks; and finally, health motives.

Is health behavior always voluntary behavior? Health behavior should always be the voluntary choice of a person because behavioral changes should always be understood by the person himself. If a person does not understand that another lifestyle or (health) behavior is possible and desirable, for example, for an improvement of his mental health, he will not feel compelled to change this behavior. This means that nursing professionals, together with the patient, should explore the importance of this change in (health) behavior. An example is to increase a patient's understanding of the importance of a good lithium blood level. The regular intake of medication is needed, so that a patient could change his health behavior in favor of his psychiatric health problem. Only if a patient has an insight into the reason will he better understand that the behavioral change is of importance and this can make a patient want to change. A change in health behavior may only be enforced when the health of others is seriously and clearly threatened. Enforcing such a behavioral change for large groups of people must therefore serve the general interest.

For health promotion, we assume that people are primarily responsible for themselves and for their own health. It is often impossible to determine whether the acquired health problem in the individual case is the result of your own behavior. Responsible means that people become aware of the choices they make for their health and become aware of the consequences for their health. This responsibility before acting is called prospective responsibility. A necessary condition for a convenient private (individual) responsibility for healthy behavior is an environment that "encourages" the healthy choice. Health promotion exists, therefore, because of both measures that will appeal to the responsibility of people to be wise with their own health so that they will avoid health risks, and an environment that has a positive influence on health.

Is it necessary to make a risk assessment before changing health behavior? A second focus in prevention and health behavior is how people estimate the probability of a health risk. Does someone who performs risky behavior assess this behavior to be high-risk behavior or as behavior that can have a negative health effect? People who perform risky behavior do not always or do not even experience this as a problem. They think that the way they behave (eat, use alcohol, handle stress, use medication) is acceptable and experience (aspects of) the behavior as being positive. In estimating health risk, it is important to note that not all behavior is under the control of the person himself. Behavior can be performed automatically, for example, if someone has forgotten the time or is in a stressful situation, and so does not take his medication. Behavior is also influenced by people in the social environment. For example, a person can be supported by the social environment (encouraged to take his medication) or thwarted. For behavioral change, it is necessary for the patient to perceive his behavior as an individual risk for health damage. Prevention may create problems that are not always easy to solve for people and that may cause on resistance for people.

Do health motives always play a role in the patient's health behavior? The third and last point deserving attention for health behavior, is the motivation of people to stay healthy. We often assume that health plays an important role in patients behaving in a certain way. But, it is possible for people to have little or no interest in health or health motives that should encourage them to behave healthier. Not everyone recognizes that changing lifestyle or (health) behavior may be desirable from the point of view of health. In addition, people can experience resistance to making a change in behavior. Resistance is a major obstacle from a health viewpoint when it is shown to be desirable for a person to carry out different, healthier behavior. Resistors are often deeply embedded in a person and are a difficult to change. Before a person wants to change their health, such resistors have to be cleared out.

3.7 Prevention: Health Protection, Health Promotion, and Disease Prevention

Prevention

1. Health protection, all legislation and regulations that prevent or reduce damage to people's health, together with inspection and control.
2. Health promotion, focuses on (1) the lifestyle and (health) behavior of people, (2) an environmental approach to health and disease, where possible, supported by (3) regulation.
3. Disease prevention is focused on optimizing patient self-management, is beneficial for dealing with health problems, and brings opportunities for health (within given limits).

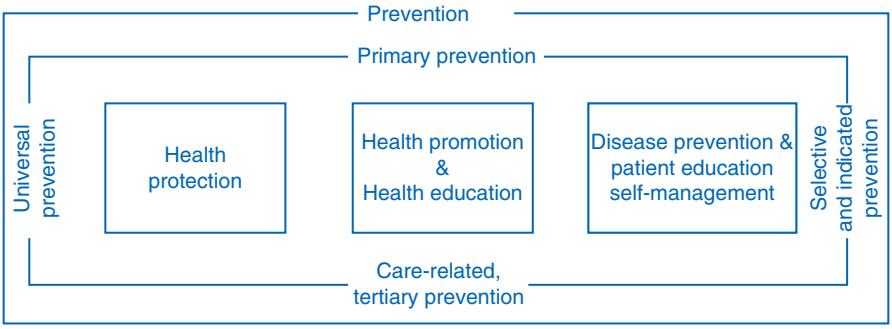

Fig. 3.4 Prevention, related to health protection, health promotion, and disease prevention

Prevention is a broad term that covers both health protection, health promotion, and disease prevention. Figure 3.4 reflects the relationship between prevention and health protection, health promotion (and health education) and disease prevention (and patient education). In this figure, the forms of prevention are also shown (universal, primary prevention; selective, indicated and secondary prevention; and care-related, tertiary prevention).

- What is public health? Public health is in line with health promotion. Public health is shaped by public health policy. Public health is about the pursuit of policy goals with collective actions aimed at health protection (traditional public health) and health promotion focusing on the health behavior of (parts of) the population. Public health implies a better recognition of health determinants and the systematic evaluation of targeted interventions on health. Public health is intertwined with public health policy. Public health was initially focused on infectious, communicable diseases. Hereinafter, the focus was strongly on chronic health problems, the noncommunicable diseases. Now we have arrived at the third stage, in which the focus is on promoting health in the sense of maximizing health as a resource for life. In the past, the emphasis was on reducing unwanted behaviors and morbidity and mortality; attention should now be focused on expanding health and achieving health gains (WHO).

3.8 Health Protection

Health protection consists of all laws and regulations that prevent or reduce damage to people's health. These laws and regulations are implemented together with inspection and control. Damage to the health of people and to (public) health, can be caused by harmful influences from the physical environment. For this, the most important health determinant is the physical environment, with the influence of physical, chemical, and biotic factors. Health protection is for the most part run outside health care and always consists of structural interventions.

What are examples of health protection? A service that deals with health protection may be a product safety authority directed at the safety of food and consumer products. The goal of such an authority is to prevent food poisoning by salmonella contamination and of disinfection in health care. Apart from the safety of food and drinking water, safety in traffic and the quality of the living and working environment are focuses of health protection. Much progress has been made in the promotion of a healthy living environment for people, including measures in the field of working conditions and environmental factors. Health protection is important for the nursing profession, because laws and regulations provide positive conditions. Examples of duties of nursing professionals in the field of health protection are monitoring hygiene in schools related to infectious disease control, or ensuring that people do not neglect themselves in their own home, or offering malaria prophylaxis for travelers to countries such as China and Vietnam.

3.9 Health Promotion and Health Education: In Short

Health promotion is aimed at promoting the health of people and at preventing or limiting damage to health. Health promotion makes use of all kinds of preventive interventions with which positive influences on health are encouraged and negative influences, as much as possible, are limited. Health promotion focuses on the lifestyle and (health) behavior of people. However, in addition to these lifestyle-oriented approaches, health promotion is supported by an environment-oriented approach and by regulation. For health promotion, the central question is what changes are needed to enable different, healthier behavior in groups or individuals? Is this a change in lifestyle and (health) behavior of a person? For example: is it important that people with risk factors for cardiovascular diseases and diabetes type 2 improve their physical activity levels and move more to enhance physical fitness? And should such a behavioral change be supported by (health care) facilities and/or regulation?

For health promotion, health education is important and this implies an orientation on lifestyle and (health) behavior. Health education can be supported by structural measures. Structural measures are (health care) facilities and regulation through legislation and regulations. Health promotion can be defined as: "the combination of educational and environmental supports for actions and conditions of living conducive to health" (Green and Kreuter 2005).

> ▶ In the health care sector, we should no longer think from the perspective of disease and care. Attention should be transferred to behavior and health. Behavior and health should be the starting point. Certainly, from the point of view of cost control and changing public health problems, attention should be directed at the prevention of health problems and the improvement of self-management.

Health promotion can be clearly displayed in an array of goals and resources. The goals of health promotion are reducing risks by universal, primary prevention;

Table 3.1 Matrix health promotion, goals and resources

	Universal, primary prevention	Selective, secondary prevention	Indicated, secondary prevention	Care-related, tertiary prevention
Health education	×	×	×	×
(Health care) Facilities	×	×	×	×
Regulation	×	×	×	×

selective and indicated prevention; and care-related, tertiary prevention. The primary resource for nursing professionals to achieve the goals of health promotion is health education. Other resources are the availability of (health care) facilities and regulation (Table 3.1).

Every government should promote the health of citizens from its public responsibility for public health and its constitutional task in this area. Other parties have a social responsibility to limit unhealthy behavior and to promote healthy behavior. Because people are responsible for their own health, healthy behaviors may not be imposed or enforced. This is the starting point of health education and of all interventions and measures that affect health behavior. Health promotion measures in the form of price increases, such as a health tax on unhealthy foods or food components, run up against practical and social concerns and do not seem desirable, but they remain a recurring point of discussion.

What are the characteristics of health promotion? An important feature of health promotion is the cooperation between the health care sector and other sectors in society. A second characteristic is that the setting is an important input for health promotion. A setting may be a school, the workplace or a hospital. A third characteristic is that there is a coherent set of interventions and that these are mutually reinforcing interventions. Finally, an important feature of health promotion is that the needs of the target group are the starting point for intervention development and the needs of the target group play an important role in the solution of the health problem.

How can health promotion be more effective? Health promotion can be more effective when people are personally involved. To increase the effectivity of health promotion, participation of the members of the target group is essential. Health promotion has a greater effect if the members of the risk group itself contribute ideas in the search for solutions to the health problem. Participation and empowerment is an important success factor. The current trend of people wanting to be involved and wanting to be empowered requires health promotion and health education to be focused on people individually. This focus on the individual and the encouragement of making their own (healthy) choices, increases the effectiveness of health promotion.

Of mass media campaigns, we known that they are often ineffective or even counter-productive. For effective health promotion, it is important that there is continuity of the interventions and not just a one-time offer is made or a temporary provision. In addition, health promotion has a greater effect if it is combined with other structural measures with the same message. The physical and social

environment should also support the lifestyle change. Approaching the target group within specific settings (such as a school or a hospital) also promotes the effectiveness. Health promotion and health education are specifically focused on changing unwanted, impairing health behavior. With health education, you are trying to motivate people to other, applicable (health) behavior. For nursing professionals, health education is the most important tool that can be used for health promotion.

> ▶ WHO, twenty-first century. According to the WHO http://www.euro.who.int/en/health-topics/health policy/health-2020-the-european-policy-for-health-and-well-being/about-health-2020/why-health-2020 in the twenty-first century the focus should be on effective health promotion with a powerful health care system based on primary health care. Health promotion is a key investment, an essential element for the promotion of the health of people. Participation and empowerment of patients is the core in health-promoting interventions, offered from the setting (hospitals, schools, cities), in addition to creating a social environment that has a positive effect on health and well-being.

What is a community approach? Health promotion works best if a community approach is implemented, that is, creating a physical and social environment that offers people (in a neighborhood, municipality, social network, company), the opportunity to handle their health. The starting point for this is encouraging participation and empowering people from the target group. Ideas on how their health can best be promoted should fit the people in the target group themselves. Experts are guiding this process and provide support in the behavioral change processes of the people in the target group. The community approach represents a potentially good approach to health promotion, that allows changes to be worked out not only on an individual behavioral level, but also on a social and physical environmental level. The assumption is that participation of the target group in the different phases of the development of health-promoting interventions leads to healthy behavior (Fig. 3.5). Participation revolves around demand-driven health promotion, which is tailored to the wishes, ideas, and health problems of the target group. Empowerment revolves around people's freedom of choice; people gain more control and are responsible for themselves.

Health promotion should be focused on expanding health with the aim of expanding health benefits. In the past, the focus was strongly on reducing risk factors associated with common health problems. However, an important starting point should be: 'regarding health as a resource for everyday life' (Breslow 1999). Expanding the health of people is possible by putting the focus on health, both inside and outside the health care system. If we consider people's lives as a spectrum, with health on the

Fig. 3.5 Participation increases empowerment and health behavior. Source: Luijpers and Keijsers (2002)

Fig. 3.6 Health promotion, spectrum health versus health problems. According to: Breslow (1999)

one hand and health problems on the other hand, then the attention should be focused more strongly on optimizing health. Health promotion would then in the most unfavorable case be that the position that someone occupies on this spectrum is maintained or has moved in a more positive, healthier direction (Fig. 3.6) (Breslow 1999). Expanding and optimizing health can be achieved in different ways. This shift in attention to optimizing health is becoming increasingly mainstream and has penetrated health care. Health professionals try to optimize blood sugar and cholesterol levels, optimize the dental status, strengthen social networks, optimize educational and care relationships for children, try to avoid burn-out and depression, and optimize self-management for patients with all kinds of health problems.

What is the role of nursing professionals in health promotion? The interface of health promotion with professional nursing practice is mainly in the area of health education. Nursing professionals implement interventions to motivate people to other, healthier behavior, according to the needs of the patient. Influencing the (health) behavior of (sub-groups in) the population, can lead to health profit. In addition to behavior change at the individual level (such as changes in knowledge, attitudes, skills, and behavior), it is often favorable to create a supportive physical and social environment. A supportive physical and social environment is often a prerequisite for? behavior change.

Nursing professionals can use the matrix of health promotion to think about the way a nursing-relevant health problem could be addressed (Table 3.1). What interventions in the field of health education are desired? What environmental interventions can make it easier to perform the desired behavior? What facilities are supportive for the behavioral change(s)? And regulation, is this desired and possible? These targets can then be articulated with regard to universal, primary prevention, selective and indicated prevention and/or care-related, tertiary prevention. The preference should be strongest for evidence-based health promotion interventions.

For health promotion, universal and primary prevention is important in the nursing profession. But health promotion in nursing practice is more than that. Health promotion is also aimed at promoting behavior that interfere with the development of a disease or the harming of health. Health promotion then focuses on selective, indicated prevention and secondary prevention. Finally, health promotion can be aimed at promoting behavior directed at people with health problems. Health promotion is then focused on care-related, tertiary prevention. Health promotion is focused then on improving health and self-management although people are diagnosed with an acute or chronic condition. The same applies for health education by nursing professionals. Health promotion and health education should therefore be offered from the care by nursing professionals (Berg et al. 2012).

What are some examples of health promotion, specifically for nursing professionals? Health promotion can be directed at reducing the increase in overweight and obesity in children. It can consist of a comprehensive package of interrelated measures

aimed at changing lifestyle and (health) behavior, and environmental interventions. It can consist of a directive to alert to, advise, and assist children who are overweighed. An interdisciplinary directive stimulates the thought that health promotion is not only a task of preventive health care, but also of curative care. The directive can be associated with the drawing up of rules for advertising and media to encourage the limitation – especially in children – of unhealthy dietary behavior. Also, public spaces should be designed in such a way that (children) are invited to be physically active. Finally, the reduction of overweight consists of promoting healthy eating in school canteens.

Health promotion in education can be directed at reducing the psychosocial health problems of children. In recurring nursing research on schools, attention is directed at this health problem. School nursing professionals can keep office hours in primary and in secondary education, to signal and ensure that psychosocial problems of children, such as bullying, social isolation, family problems, and (mental) health problems of parents are dealt with. In addition, teaching packages around for example bullying and social efficacy are implemented. For parents, there may be courses or office hours aimed at dealing with children and handling the psychosocial problems of the child. Also, the development of professionals who work with these target groups can be part of the "package" of health promotion for psychosocial health problems in children aged 4 to 19 years.

Health promotion is increasingly being carried out within companies, and is directed at spreading awareness of the importance of a healthy lifestyle. Attention is given to the dietary habits and the physical activity behavior of workers in the company. The theme of healthier eating can be put into practice in the company canteen. There may also be walking lunches offered. The environment can invite people to be more physically active. Within the setting of the workplace, further health benefits are to be gained by offering stress prevention programs.

Health promotion may also focus on the problem of loneliness among the elderly. Nursing professionals can implement various interventions aimed at limiting (the consequences of) loneliness among the elderly. For example, they organize home visits to identify this health problem, or keep office hours with the goal of promoting preventive care to the elderly. Such consultation agencies may retain or increase the independence of elderly care. Nursing professionals can give the elderly education on specific activities in the district and city, and motivate elderly people to take part. Other possibilities in this setting are stimulating buddy projects to put elderly people in a role for caring for others.

- **Expectations for the future**. The forecast for the future is that health promotion will be offered increasingly frequently by the health care system (Berg et al. 2012 in: Bakker et al. 2012).
- **Health 2020, WHO.** In the **European health policy framework Health 2020** http://www.euro.who.int/en/health-topics/health policy/health-2020-the-european-policy-for-health-and-well-being/about-health-2020/what-are-the-key-components-of-health-2020 from the WHO, it is stated that the intertwining of prevention and cure is the key to success. This because health inequalities in the world are increasing.

- The life expectancy at birth has increased globally: (1) by decreased mother and child mortality; (2) by the reduction of infectious diseases in children and young adults; (3) through improved housing, sanitation, and education; (4) by the trend of smaller families; (5) by growing income; and, finally, (6) by public health measures such as immunizations.

3.10 Health Education

Prevention → health promotion → health education.

Health education, motivating people to behave healthier.

Nursing professionals should motivate people to other, healthier behavior; to fit this behavior change into their lifestyle; and to maintain the behavior change for the long term.

Health education does not mean merely giving information.

Health education is also called behavior-focused health promotion.

How do the concepts of prevention, health promotion, and health education relate to each other? Prevention and health education are not synonymous. Prevention extends over a wide area, and includes health promotion and health education. Health promotion consists, as shown in the matrix of health promotion (Table 3.1), of the use of the application of: (1) health education; (2) the taking of certain (health care) facilities; and (3) measures and laws and regulations. It may be that health education, (health care) facilities and regulation are applied at the same time and in combination to offer health promotion, but health education can also be an independent function.

What is health education? Health education focuses on motivating people toward other, healthier behavior. Nursing professionals should motivate patients to change their behavior to optimize health, to behave in a healthier way and to incorporate the change into their lifestyle, for the long term. Health education can be defined as: "any combination of learning experiences designed to facilitate voluntary behavior conducive to health" (Green and Kreuter 2005).

What is behavior-focused health promotion? Health education is a prerequisite for the effective and efficient use of (health care) facilities and measures and laws and regulations. Kok et al. (1997) call this "behavior-focused health promotion."

Is health education about providing patients with better information? In the past, the emphasis in health education was on increasing the knowledge of somatic health. If people had more knowledge about the effect of certain behavior on their health, if they were better informed, the expectation was that they would start to behave in a healthier way, in line with given health advice. We

now know that knowledge is rarely sufficient for a patient to turn to healthier behavior and to start living a healthier lifestyle. Thus, more knowledge about a healthy lifestyle, taking the correct medicines, or avoiding stressful situations, does not lead to a healthy lifestyle, better medication intake, or better sleep. Alternatively, improving knowledge about the importance of physical activity in people with risk factors for cardiovascular diseases or diabetes type 2 does not lead to optimal movement behavior. Improving knowledge rarely leads to behavior change, especially not to a behavior change that is sustainable in the long term.

Health education is more than informing patients, but how? Health education should focus on the advantages and disadvantages that are connected to the behavior change, and that are personally relevant to the patient. Health education should also focus on the social and practical skills that are needed to carry out the desired healthier behavior. Health education is also about setting goals for behavior change, meaning the setting of goals by the patient himself. Based on these goals, the patient makes a plan and can then start trying the behavior change via trial and error. If the behavior is changed, it is important to continue guidance and coaching, until behavior maintenance. This preservation of the behavior change in the lifestyle of the patient is important, because temporarily changing behavior will not have a lasting effect on health.

What do we expect patients in regard to health education? If we start from the needs and demands of the patient, it is desirable for the patient to be invited to play an active and participatory role in the consultation with nursing professionals. In addition to being active and participating, the social circumstances and the skills of the patient play a role. Also, the voluntary principle is important, which implies that the patient has a high degree of choice in respect of the particular behavior. Health education allows patients to choose the desired health behavior voluntarily, but also to choose not to change the behavior. The behavior of people is complex. Many behaviors are not conscious, not goal-oriented, and consists in part of learned patterns. We call this "habit behavior." The opposite of habit behavior is conscious, intentional behavior, in which a patient undertakes careful consideration. Health education is aimed at careful consideration by the patient of the behavioral alternatives available. Changing habit behavior requires a different approach from nursing professionals than the adjustment of conscious behavior. Health behavior is also determined by the extent to which the patient understands that health partly depends on lifestyle and behavior. If people do not see their own health as problematic, they attach little value to the relationship between health and behavior.

What is proto-professionalizing? It is also important for a patient to think medically and to think about health. This is called proto-professionalizing. It involves knowledge about and familiarity with health care. If people are better informed about medical issues and health, and are also in a way familiar with the health care system and in communicating with health professionals, they show stronger, healthier behavior.

One size fits all or personalized prevention? Health promotion and health education should be tailored to the specific needs of a patient and one size fits all is not the credo for the promotion of healthy behavior. The education should not only be tailored to groups of patients, but also increasingly tailored to the individual patient and his personal characteristics and needs. One size fits all is not desirable. Health promotion and health education should develop in the direction of personalized prevention, in which both the supply and the time of the education is tailored to the patient's own needs and wishes.

- **WHO, millennium goals**. With the Millennium Health Goals, the paths to the future the WHO wants http://www.who.int/topics/millennium_development_goals/en/ to improve global health by reducing extreme poverty and hunger, by reducing infant and maternal mortality, by combating HIV and other infectious diseases, by protecting the environment, and to form "global partnerships for health."

3.11 Disease Prevention, Patient Education, and Self-Management: In Short

Prevention → disease prevention → patient education and improving self-management.

Disease prevention: the aim is to prevent health problems and, if health problems are present, to deal with the restrictions that go with them and with further deterioration.

Patient education: the aim is to optimize behavior that is beneficial for dealing with health problems and improve the health status (within given limits).

Self-management is about how patients handle their own health and improve their self-management behavior within their personal opportunities.

Nursing professionals should support and optimize patient self-management.

Patient education and optimizing self-management do not mean merely giving the patient information.

Self-management does not mean that people should handle their health themselves; self-management is done with the support of health professionals.

Prevention includes disease prevention, in addition to health promotion and health protection. *What is disease prevention?* Disease prevention is about preventing health problems and, if health problems are already present, dealing with the restrictions that go with them and with further deterioration. Disease prevention is aimed at groups of people who are at risk of a particular health problem. The purpose of disease prevention is to attain health benefits and this is best achieved by the implementation of evidence-based disease prevention interventions. There is much to achieve in health gains, but also in profit for society as a whole, as disease prevention is supplemented by custom care supply and by health care facilities and regulation.

3.12 Patient Education

What is patient education? Patient education is closely related to disease prevention. Patient education is aimed at optimizing behavior that is beneficial for dealing with health problems and improving health status (within given limits). For nursing professionals, patient education is heavily focused on promoting patient self-management. Patient education is not about informing the patient about all the ins and outs of his health problem. Patient education should be about the relationship between the health problem and patient behavior. In patient education and improving self-management, the needs of the patient are always the starting point. First, nursing professionals should always determine the problem and patients' needs. Patients are increasingly well informed and want patient education that is matched to their personal (health) situation.

Patient education should fit the patients' desired lifestyle or behavioral change. What would the patient wish to avoid with regard to (further) health problems, or what would he like to be able to master to handle restrictions? Patient education should focus on attitude change, with the advantages and disadvantages of a behavior change, and on learning the necessary skills (social and practical) to handle the desired behavior. It is important for patients to set goals for behavioral change. Behavior change and maintaining the new behavior form the end purpose of patient education. The occurrence of health problems or learning to deal with a health problem often requires an adjustment in the lifestyle of a patient on multiple fronts. For patients with cardiovascular diseases, this can involve recommendations to move more, to use their medication, and to be aware of fats in the diet. In patients with rheumatic health problems, it may involve recommendations regarding pain medication, exercising more and having a good pattern of activities and rest. Patient education should start with improving the behavior that is most important for the patient, or behavior that is the easiest to change, or behavior the patient is already experienced in or familiar with.

3.13 Self-management

► **Self-management is about how patients can handle their own health and improve their self-management behavior within their personal opportunities**. Self-management does not mean the patient handling his health himself; self-management is done with the support of health professionals.

What is self-management? Self-management is about how patients handle their own health and improve their self-management behavior within their personal opportunities. Self-management is a set of skills the patient has to handle his health problem and increase his independence of care. Self-management does not mean that a patient should handle his health himself; it is done with the support of health professionals. Self-management means that an individual patient may need much

support, and other patients need less or almost no support from nursing professionals. The patient manages his own health problem and all matters concerning his health problem. Self-management is about learning how to solve problems, to collaborate with health care providers, and to expand health behavior.

Self-management is about learning how to deal with health. The patient identifies his own problems when handling his disease or related factors, and decides himself if and how he wants to work on them. The patient learns problem-solving skills that are relevant to be able to handle the consequences of the health problem. The patient learns to have faith in his own ability to handle treatment and care, and to improve his well-being and quality of life (McGowan 2012).

What is the Chronic Care Model? The Chronic Care Model gives nursing professionals an insight into the complex concept of self-management. The Chronic Care Model provides a multidimensional view of health. The self-management of the patient is an important element in the model, together with the elements health care system, environment, and health policy. Self-management is an essential part of the Chronic Care Model and patients should learn the desired self-management skills and learn to have confidence in their own self-management.

What do the concepts of prevention, health education, and patient education state to each other? Prevention is the overarching understanding, and prevention includes health education and patient education accompanied by self-management. Patient education can be seen as a restructuring of health education. The procedures and methodologies that are used for health education are also effective for patient education. Patient education moves mainly in the field of selective and indicated prevention and care-related, tertiary prevention, but primary prevention may also be part of patient education. These combinations of preventions are common in professional nursing practice.

- **WHO**. According to WHO 2020, chronic and degenerative health problems will increase in rich countries, which implies that there is a great deal of work to be done on health care. On the one hand, there are technological improvements combined with income growth that have led to a specialist health supply. On the other hand, there is an increasing demand for basic care owing to a decreasing willingness and capacity in informal care. The number of health professionals needed to bridge this gap will be huge. The gap will widen between what can be done to address health problems and what really happens. Success dependents on the effectiveness of the health care system. http://www.euro.who.int/en/health-topics/health policy/health-2020-the-european-policy-for-health-and-well-being/about-health-2020/strategic-objectives.

3.14 Prevention: Targets

When is prevention effective and efficient? Prevention is only useful if it is effective. A prerequisite for efficient and effective prevention is knowledge of the endogenous and exogenous determinants that have a major influence on a health problem, but

what makes it difficult is that the same health determinants may play a role in multiple health problems. If the goal with prevention is to affect the incidence and prevalence of a health problem, then we need to know which are the key determinants and whether these are changeable. The correct target group should also be fixed. Furthermore, for efficient and effective prevention the most appropriate intervention should be chosen based on evidence. Finally, health care providers must give the intervention a structural place within their profession.

When is prevention effective and efficient in mental health? Prevention in mental health care can be efficient and effective, when the target groups with the highest risks are selected. In these target groups, there is often an accumulation of risk factors. The efficiency and effectiveness of prevention increases if a combination of intervention strategies is applied. This combination of intervention strategies is called the multicomponent approach. A multicomponent approach always consists of interventions aimed at lifestyle and environmental interventions. The environment-involved interventions should as a rule also include the (social) environment of the patient. You can also increase efficiency and effectiveness if you intervene before (nonspecific and social) risk factors are perpetuated. Finally, for efficient and effective prevention, it is of great importance for nursing professionals to incorporate effective interventions into their care.

Within mental health care, prevention is concerned with eradicating mental and psychiatric health problems, but about reducing risks and promoting and optimizing mental health. Prevention in mental health care is aimed at the prevention of serious mental health problems, at the early detection of mental health problems to increase the success rate of the treatment, or at the prevention of worsening mental health problem. Focus areas for prevention in mental health are depression, social psychiatry, and the children of parents with mental disorders.

Targets for prevention in mental health may include nonspecific risk factors, social risk factors, and depression symptoms and disorders (Hosman et al. 1997). Important risk factors that can be seen by different psychiatric health problems are a low level of social support, an emotionally poor childhood, and having no or a negative model behavior. These risk factors are called the specific risk factors. There are also nonspecific protective factors: receiving social support, a loving upbringing, social control, and the presence of preventive model behavior.

Prevention with the aim of reduction of mental health problems is especially useful in people with an accumulation of the negative, nonspecific risk factors. With the aim of reducing mental health problems, important health gains can be achieved when interventions using relapse prevention are implemented. An example of relapse prevention is to add a short intervention to the therapy, in which people learn to handle relapse in the depression in the future. The social psychiatry specifically concerned with this relapse prevention and is also usually focused on the support of family members. A final example is prevention focused on schizophrenic patients. In schizophrenic patients, beneficial effects can be achieved using a family-oriented intervention, by teaching problem-solving skills and accurate medication use.

► **WHO, Health 2020. In the European framework of health policy WHO Health 2020**, (http://www.euro.who.int/en/health-topics/health policy/health-2020-the-european-policy-for-health-and-well-being/about-

health-2020) the following shortcomings in the availability of health care are mentioned.

- **Reverse care**. People with the most resources – and often the least need for health care – consume the most care, whereas those with the fewest resources and the biggest health problems consume the least care.
- **Fragmented care**. The specialization of health care providers and the limited focus of many disease control programs discourage a holistic approach and the necessary continuity of care.
- **Misdirected care**. The allocation of resources focuses on curative care with high costs, which exceed the potential of prevention and health promotion to decrease the disease burden by up to 70%.

Is it also possible that prevention is ineffective? There are two main problems with prevention. The first problem is indicated by the term "replacement causes of death" and the second problem concerns the accessibility of prevention.

What do we mean by replacement causes of death? Sometimes it is important to be cautious with regard to prevention, because people die anyway and it remains to be seen whether the behavioral changes that people implement do lead to health gains or "only" to another cause of death. This problem is the phenomenon of the replacement causes of death. This includes whether the cause of death that you exclude by targeted preventive activities does indeed lead to health benefits for the target group. The prevention of cardiovascular diseases through lifestyle changes has led to health benefits. We see an increased life expectancy among these people, but on the other hand, the number of people with chronic conditions has increased. The phenomenon of the replacement causes of death lead to shifts in disease patterns, and this creates shifts in the provision of (nursing) care.

Is prevention accessible for all people? A second problem associated with prevention is accessibility. Prevention should be aimed at all, but typically only reaches certain groups. More highly educated people have better access to prevention and to health education. Prevention and health promotion are available for the groups who least need it. Preventive interventions should be aimed at the specific target groups and extended to groups with a less favorable health status. The problem of accessibility asks nursing professionals for extra effort. Nursing professionals should give specific attention in preventive interventions to hard-to-reach groups, because this is an important step toward achieving health benefits.

3.15 The Intertwining of Prevention and Care

In cure and care, greater focus should be placed on prevention.

In prevention, greater focus should be placed on care and cure.

Prevention, health promotion, and disease prevention should be integrated into care.

For a long time, there has been a separate development of prevention and cure. Health care professionals were only concerned with prevention (prevention of health damage), whereas others were primarily focused on cure (repair of health damage).

What is the starting point now? The current starting point is that care should give more attention to prevention than does the care that is offered.

Nursing professionals should work neither exclusively preventively or curatively when giving care. In their professional practice, prevention should be part of cure and care, and the focus should be on health and improving health. Within cure and care, the focus should be both on the treatment of people with health problems, and on health promotion, disease prevention, and patient education, and improving self-management behavior is important. Prevention and cure should be combined and more reciprocal links should be used.

Future music? No, now:

Nursing professionals offer more frequent and more active prevention from their care.

Personalized prevention.

Personalized self-management.

P4 medicine.

More frequent and more active prevention offered by health care is now the departure point for good-quality (nursing) health care. Currently, it is still the case that prevention is not properly matched to the person and is based too much on one size fits all. This approach to prevention should develop in the direction of personalized prevention.

What is personalized prevention? For personalized prevention, interventions are tailored to the patient with regard to both offering and timing . Personalized prevention is consistent with P4 medicine.

What is P4 medicine? Prevention should be personalized, predictive, preventive, and participatory (Hood and Friend 2011). The preventive intervention or activities given are specifically tailored to the individual and are personalized, aimed at predicting the chance that people run to get sick and it can be used to diagnose and treat disease more efficiently. Finally, this type of care assumes that the person who receives the care has an active and participatory role in care and treatment.

What supports the focus on the intertwining of prevention and curation? In society, we see a trend towards more conscious dealing with health, health care, and health facilities. This trend reinforces the attention to prevention. People have become aware of the influence of the medical profession on their lives, their health, and on dealing with illness and disability. They have come to understand that prevention of damage to health has a clear added value above intervening in diseases. Prevention is better than cure. People can make a tradeoff between disease with all

the negative consequences and the preventive behavior with its accompanying difficulties. Nursing professionals are the ideal group of health care professionals to combine prevention and cure. They are able to take up the intertwining of prevention and care as a starting point for optimizing health, quality of life, and specifically the self-management of patients and good-quality care.

Also, in the policies of health care institutions and educational institutions, attention to prevention should be intensified, so that prevention is more frequently and more actively offered by health care. The intertwining of prevention and is necessary, because it is becoming increasingly clear that investing in prevention, health promotion, and health education is more effective and leads to more health benefits than curative care alone. An example of the interconnectedness of prevention and cure is the prevention consultation (by nursing professionals) in GP practices, in which screening, prevention, and treatment are offered to patients with risk factors for cardiovascular diseases, cancer, and mental health problems. This is assumed to be personalized prevention, and people are selected and invited based on their individual risk profile.

In the future, prevention, health promotion, and health education will be implemented less frequently based on short-term, individual-oriented lifestyle interventions for different types of unhealthy behavior. Care will play a more important role in prevention and health promotion, to optimize care supply. Health care professionals will increasingly see it to be their responsibility to promote the health of these people before they get health problems, and if there are restrictions, to optimize the health situation. Professionals will come to understand the importance of personalized self-management for patients.

References

van den Berg M, Schoemaker CG, editors. (red.). Effecten van preventie. Deelrapport van de Volksgezondheid Toekomst Verkenning 2012 Van gezond naar beter. RIVM-rapport 270061007. Bilthoven: RIVM; 2010.

Breslow L. From disease prevention to health promotion. JAMA. 1999;281(11):1–9.

CVZ, College voor zorgverzekeringen. Van preventie verzekerd. Rapport uitgebracht aan de minister van Volksgezondheid, Welzijn en Sport. Publicatienummer 250. Diemen: CVZ; 2007.

Dickey CF. Redefining outcomes: fifty years of decision making in strabismus management. Richard G. Scobee Memorial Lecture. Am Orthopt J. 1999;49:49–62.

Green LW, Kreuter MW. Health promotion planning. An educational and ecological approach. Boston, MA: McGraw-Hill; 2005.

Gunning-Schepers LJ, van der Maas PJ, Mackenbach JP. Volksgezondheid en gezondheidszorg. Utrecht: Bunge; 1995.

Hood L, Friend SH. Predictive, personalized, preventive, participatory (P4) cancer medicine. Nat Rev Clin Oncol. 2011;8(3):184–7.

Hosman CMH, Gunning-Schepers LJ, Jansen J. Volksgezondheid toekomst verkenning 1997. Deel IV Effecten van preventie. Maarssen: Elsevier/De Tijdstroom; 1997.

Kok G, van den Borne B, Mullen PD. Effectiveness of health education and health promotion; meta-analyses of effects studies and determinant of effectiveness. Patient Educ Couns. 1997;30:19–27.

Lerman I. Adherence to treatment: the key for avoiding long-term complications of diabetes. Arch Med Res. 2005;26:300–6.

Luijpers E, Keijsers J. Participatie. In: Jansen J, Schuit AJ, van der Lucht F, editors. Tijd voor gezond gedrag. Bevordering van gezond gedrag bij specifieke groepen. Houten/Bilthoven: Bohn Stafleu Van Loghum/RIVM; 2002. p. 203–15.

McGowan PT. Self-management education and support in chronic disease management. Prim Care. 2012;39(2):307–25.

Sassen B, Cornelissen VA, Kiers H, Wittink H, Kok G, Vanhees L. Physical fitness matters more than physical activity in controlling cardiovascular disease risk factors. Eur J Cardiovasc Prev Rehabil. 2009;16(6):677–83.

Sheikh I, Ogden J. The role of knowledge in help seeking behavior in cancer: a quantitative and qualitative approach. Patient Educ Couns. 1998;35:1.

de Vries NK. Het hart, de ruggengraat en de hersenpan. Perspectieven op gezondheidsgedrag. Rede uitgesproken bij de aanvaarding van het ambt van hoogleraar gezondheidsvoorlichting en -bevordering aan de Faculteit der Gezondheidswetenschappen van de Universiteit Maastricht op Donderdag, November 9, 2000.

Health Promotion and Health Education: Improving Patients' Health Status

4

Many common health problems are influenced by the lifestyle and (health) behavior of people. If we are able to change an unfavorable lifestyle and behavior in a favorable direction, then health problems can be prevented or restricted. When lifestyle or health behavior has changed in a positive direction, people can become healthier. We call this changing of lifestyle and behavior of people health promotion. Health promotion can be achieved through health education. Motivating people to change their behavior is a major task according to nursing professionals themselves, and they state that they spend a lot of time on this (Sassen et al. 2011).

This chapter provides an insight into how nursing professionals can develop health interventions and implement these health interventions, using health promotion and health education. In Sect. 4.1 we describe the difference between intentional health education and facilitating health education. Health education has a clear system, targeting, and efficiency plan, which we will describe in Sect. 4.2. The protocol of intervention mapping (IM) is explained extensively in Sect. 4.3, because this is currently the most frequently used planning model for developing health promotion and health education interventions. Using intervention mapping creates interventions that have been shown to be efficient at achieving the goals of changing lifestyle and (health) behavior.

B. Sassen, *Nursing: Health Education and Improving Patient Self-Management*,
DOI 10.1007/978-3-319-51769-8_4

4.1 Health Promotion and Health Education: What Is the Difference?

Health promotion and health education both aim to change unfavorable (health) behavior, in favor of the health of a person, to change a lifestyle that has a negative effect and harms health.

Health promotion comprises health education, in addition to (healthcare) facilities, laws, and regulations.

By using health promotion, health is stimulated in a positive way and negative influences on health are limited as far as possible. Health promotion and health education are both aimed at changing health-impairing behavior. Health promotion is the overarching concept and includes health education. In support of health education, we offer (health care) facilities, laws and regulations, used with the goal achieving a better effect (Kok 1993).

Health promotion is aimed at motivating people toward different, healthier behavior and changing their unfavorable lifestyles. Offering (health care) facilities and/or laws or regulations may support people, so that they are better able to achieve healthier behavior and change their lifestyle. The core of health promotion is offering health education. Health promotion is the broad, overarching concept including health education; both assume a lifestyle-oriented approach to health. In addition to this lifestyle-oriented approach, health promotion can take an environmentally oriented approach (Fig. 4.1).

Health education, the systematic and methodical attempts to change lifestyle and (health) behavior of people, by motivating them toward, healthier behavior. These targeted changes in knowledge, attitudes, skills, and behaviors are in the interests of the person and eventually lead to an improvement in health.

Therefore, the aim of health education is that a person becomes motivated to change to healthier behavior, thus improving his health status.

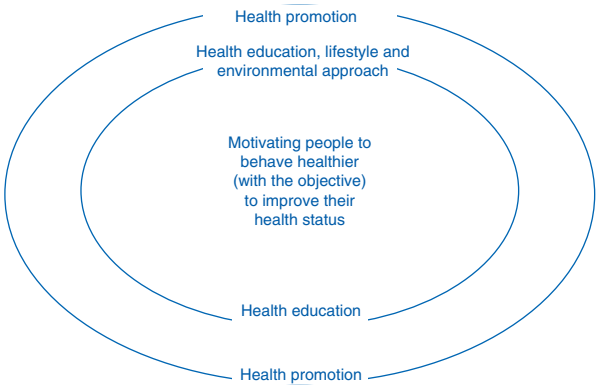

Fig. 4.1 Relationship between health promotion and health education

What is health education? Health education can be defined as the systematic and methodical attempts to change the lifestyle and (health) behavior of people, by motivating them toward healthier behavior. These targeted changes in knowledge, attitudes, skills, and behaviors are in the interests of the person and eventually lead to an improvement in health.

Health education is used as an instrument of health promotion. Health education is specifically aimed at people's behavior and at the health determinants lifestyle and behavior. Health education is always concerned with providing education on health to individuals or groups. Health education is useful for addressing or even "tackling" health problems. Health education includes all efforts to change people's behavior that affects their health, by motivating them to different, healthier behavior (Kok et al. 1997). The characteristic of health education is in the statement that it is concerned with motivating people toward healthier behavior (Kok et al. 1997). According to Damoiseaux (1991), health education covers a broad range of health education interventions, it has many goals, focuses on different target populations, and is carried out on different levels; health education is a tool in health care. A characteristic of health education is that there is a systematic approach, a clear cooperation with the target group, and that there should always be careful consideration of the desired behavior that takes place (de Saan and de Haes 1993).

Motivating people to behave in a healthier way seems easier than it is. This is because people do not associate health problems with themselves, think that it will not happen to them, or that it is a problem for the long term. They think that they do not behave in a risky manner, they are not convinced of the benefits of healthier behavior, or they do not experience support from others. If people want to change, then they often do not know how to deal with problems that they may encounter. All this ensures that in such cases, people are not motivated to change (De Vries 1999).

Thus, health education is purposeful in motivating a person to undertake healthier behavior so that they develop a more favorable, healthier lifestyle. Nursing professionals want to promote people's health and prevent or limit damage to health.

4.2 Intentional Health Education and Facilitating Health Education

Basic forms of health education:

In intentional health education, the goal is to change unfavorable, health-impairing behavior into a lifestyle that supports health.

In facilitating health education, the goal is knowledge transfer.

Nursing professionals should focus on intentional health education.

When do we call health education real health education? There are two basic forms, intentional health education and facilitating health education. The starting point for both is the importance of the recipient of the education.

What is intentional health education? By using intentional health education, an attempt is made to change the lifestyle of a person in a favorable direction. The

assumption is that it is better for a person to behave in a healthier manner. The purpose of intentional education is to change unfavorably, health-impairing behavior into a lifestyle that supports health. Therefore, it is important, from the view of nursing professionals, to change behavior that has or can have an adverse effect on health.

A nursing professional uses intentional health education to ensure a conscious change in the knowledge, attitude, and behavior of a person. This from an evidence-based perspective that such changes can improve the health status. Although the person himself may not have a clear need, it is always his own choice whether he wants to change his lifestyle or (health) behavior. Patients cannot be obliged to change the way they handle their health. For example, a person cannot be obliged to take note of the advantages and disadvantages of physical activity, to develop a positive attitude toward physical activity, and to actually start moving. The obligation is not even there when the patient has a serious health problem, such as cardiovascular diseases or diabetes.

What is facilitating health education? The second fundamental form of health education is facilitating health education. The purpose is knowledge transfer, and to inform the person. The scope of this goal is limited, because it is only about providing information. Facilitating health education is about all sorts of facts around a health problem. Facilitation education meets a number of conditions. First, the information is provided without obligation; this means that a patient can choose if he wants to receive the information. Second, the information is correct and objectively formulated; the patient can build on it. Last, the information is based on the expected need of the patient to be informed. For example, the need for information on fever in children, or on regulating blood glucose levels for diabetics. With facilitating health promotion, an explanation can be given (for example, on the different activities of youth health care), a statement can be given (for example, about the importance of using folic acid before and during pregnancy), and/or a clarification can be given (for example, on the action of insulin in the body).

Facilitating health education can be offered in the form of a folder, brochure, website or app. Although facilitating education is also used to inform the patient about the importance of changing lifestyle factors and behavior, it is rarely an effective way to achieve this goal. Informing a patient leads only to a better informed patient; it does not lead to a change in lifestyle or (health) behavior. For example, when a patient with multiple risk factors for cardiovascular diseases and type 2 diabetes receives a booklet from a nursing professional containing background information on high blood pressure, high cholesterol levels, and obesity, this can lead to an increase in knowledge. If the booklet also informs the patient about the beneficial effect that an improvement in physical activity may have, nursing professionals should not expect the patient to change his lifestyle and start moving. Patients do not change their (motion) lifestyle or behavior because they are better informed. More knowledge rarely leads to healthier behavior.

What does this mean for you as a nursing professional? Within the nursing profession and practice, the focus is on intentional health education. Nursing professionals motivate their patients to change their health-impairing behavior, focusing

on optimizing patients' behavior, so that the health status may improve. Nursing professionals also use facilitating education. Facilitating health education is, for example, useful for informing patients on all issues associated with a hospital stay. Providing information, with the aim of increasing knowledge, takes place frequently, but is insufficient for behavior change without intentional education. Facilitating education within the nursing profession should only be used in support of intentional health education. Intentional health education should be used when the aim is to change lifestyle and (health) behavior.

4.3 Intervention Mapping: Planning Model Intentional Health Education

Intervention mapping is a protocol for incrementally developing and implementing a health education intervention.

Intervention mapping offers a framework for developing an intervention (Bartholomew et al. 2011, 2016; Kok et al. 2004; Schaalma et al. 2009). Intervention mapping is a protocol for incremental intervention development based on evidence (for nursing professionals) from a literature search: a health education intervention will be developed.

Intervention mapping starts by assessing a specific health problem (see step 1 in Fig. 4.2). You look at the causes of the health problem, and you look at distinguishing risk groups and risk behaviors. In step 2, you define goals, and you specify in this step what changes are necessary to achieve these goals. In step 3, you select proven effective intervention methods that can put changes in motion (in knowledge, attitudes, skills, and behavior). In step 4, you design the health intervention by combining the selected intervention methods and test your intervention as well. In step 5, you will develop an adoption and implementation plan for the intervention. Finally, you develop an evaluation plan in step 6. The evaluation is aimed at assessing both the effectiveness of the intervention and the entire process that has preceded it.

Intervention mapping has been shown to be an effective protocol for developing health-based interventions and then running it on the basis of the implementation plan (Bartholomew et al. 2011; Sassen et al. 2012; Alewijnse et al. 2002; Heinen et al. 2006; Wolfers et al. 2007). Intervention mapping is not a new theory or a new model, but a tool for the planning and development of a health intervention. Intervention mapping is a tool that allows you to develop a health intervention in a systematic way. By using Intervention Mapping, you apply theories and the results of earlier research (Kok et al. 2004). By applying the protocol of Intervention Mapping you work based on evidence.

The steps of Intervention Mapping:

> "… provide a guide in intervention planning … to travel a common path from start to finish" … "It maps the path from recognition of a need or problem to the identification of a solution." (Bartholomew et al. 2000)

Step → *Action*			
Step 1	↑ ↓	**Intervention mapping step 1 - Needs assessment, analysis of the health problem**	1.1 What is the health problem? What is the influence of the health problem on the quality of life? 1.2 What is the relationship between the health problem and (health) behavior? 1.3 What is the relationship between the health problem and the environment? 1.4 What are the social-cognitive determinants which determine the intention and (health) behavior?
Step 2	↑ ↓	**Intervention mapping step 2 - Defining performance objectives of the intervention, and specifying the needed changes in social-cognitive determinants**	2.1 What is the overall purpose of the health intervention? 2.2 What are the performance objectives of the health intervention? 2.3 What are the change objectives of the intervention? Objectives directed at changing the social-cognitive determinants of intension and (health) behavior.
Step 3	↑ ↓	**Intervention mapping step 3 - Methods and theories with which social-cognitive determinants of intention and (health) behavior can be changed.**	Which evidence-based methods can change the social-cognitive determinants and lead to the achievement of the performance objectives and change objectives?
Step 4	↑ ↓	**Intervention mapping step 4 - Design the health intervention**	In designing the health intervention, you start with applying the methods and theories of behavior change. With the selected methods you build the health intervention. The methods are the building-blocks of the health intervention. The health intervention is succesfull if the patient changes his actual behavior and stabilization of the behavior change has occured. The end goal of your health intervention is that the patient(group) has turned to other, healthier behavior.
Step 5	↑ ↓	**Intervention mapping step 5 - Implementation plan, write an implementation plan**	5.1 What do we want exactly that the people who implement the health intervention are going to do? Are they motivated to use and start to implement the health intervention? 5.2 Where in the nursing care process, the provision of the health intervention should start and how should it be implemented so that it is an integrated part of the care process? 5.3 How do we ensure that the health intervention is institutionalized?
Step 6	↑ ↓	**Intervention mapping step 6 - Evaluation plan, write an evaluation plan**	The effectiveness of the health intervention is examined and also the effect on patients' health behavior. Is the patient really behaving healthier? Is the patient able to describe health benefits? Has quality of life increased? The evaluation should determine whether the implemented (behavior change) methods have led to the expected changes in the patient(group)

Evaluatie Implementatie

Fig. 4.2 Intervention mapping protocol: design, implementation, and evaluation of a health education intervention

The PRECEED–PROCEED model (Green and Kreuter 2005) is a precursor of intervention mapping. The PRECEED–PROCEED model and intervention mapping have a number of important overlaps and complement each other. Both the PRECEED–PROCEED model and the intervention mapping protocol are based on an efficiency plan being key to the success of effective health promotion and health

education interventions. Both start from an analysis of a health problem and try to solve the health problem, as far as this is possible. Intervention mapping is, according to Kok et al. (2001), a process, and the concretizing of a health intervention is done by regularly going back to a previous step, because new insights have emerged from that previous step, and from that step one can go further with the protocol.

4.4 Conditions and Principles of Intervention Mapping

When do you use intervention mapping as a nursing professional? Before using intervention mapping, it is good to look at the terms of use. intervention mapping is used to tackle health problems by means of a health education intervention. A first condition is that the health problem is behavioral. Someone's behavior should have a clear impact on the occurrence and/or perpetuation of the health problem. If a change in behavior of the patient does not lead to (as far as possible) solving the health problem, solutions other than the intervention mapping protocol are more obvious. Another condition is that the determinants of behavior must be changeable. If the social–cognitive determinants are difficult to change, it is better to look at other solutions. As nursing professionals choose social–cognitive determinants that are difficult to change as the focus of their health intervention, their efforts are great and the return is small. Finally, a condition for the use of intervention mapping is that there is a realistic chance of achieving the stated objectives of the health intervention. This means that nursing professionals should be able to set realistic, achievable goals and that a clear beneficial effect on health is attainable. Thus, nursing professionals get started with intervention mapping, as (1) the health problem is behavioral; (2) social–cognitive determinants shape the health problem, and (3) the end goals are realistic and a beneficial effect on health is to be expected.

What is the starting point of intervention mapping? The starting point is that those who develop the intervention work together with the people who will receive and are going to use the health intervention. Bartholomew et al. (2000, 2011) call this the perspective on participation in planning. By letting people participate in the development of the health-based intervention, this increases the chance of connecting with the target audience. The intervention will be developed together with the target group, because the people in the target group know best what would fit them. The target group consists of the people with a specific health problem, in addition to the nursing or health professionals who are going to use the health intervention in a specific health care setting.

What is done in advance to intervention development? Before starting to build a health intervention, there should be a comprehensive analysis. We call this the needs assessment or the analysis of the health problem. In the needs assessment, we want to gain more of an insight into the health problem. Insight into the health problem can be obtained by the collection of data, data on the quality of life, and on epidemiological health indicators. We start from a major health problem and analyze behavioral and environmental factors related to that health problem. We explore in the needs assessment the influence that (health) behavior and social–cognitive determinants have on the health problem. We want to know the impact of lifestyle

on health, and especially if behavior can be targeted to promote healthier behavior. Also, we explore in the needs assessment the influence of the environment on the health problem. We want to know the impact of the environment on health, and if the environment can be targeted at promoting healthier behavior.

In short, in the needs assessment, we collect data around the health problem, in a deductive mode. If there are not enough data available or if data are insufficiently worked out, one should not start with intervention mapping:

> "the most common mistake in health education, implying poorly planned work; and, we do not need to have illusions about the results of the health education" (Kok et al. 2000).

The further description of intervention mapping assumes that nursing professionals themselves develop (parts of) the health education intervention, and that they implement and evaluate the intervention. In the steps of developing the health education intervention, it is recommended that the available research results that have been described in the literature are used. Intervention mapping should always be based on evidence from other research. To work based on evidence, do a literature search in for example PubMed, using the search terms "intervention mapping" AND "specific health problem."

4.5 Intervention Mapping Step 1: Needs Assessment

How are you going to get started in step 1 of intervention mapping? Step 1 of intervention mapping is going to answer the questions: what is the health problem? What is the influence of the health problem on the quality of life? What is the relationship between the health problem and (health) behavior? What is the relationship between the health problem and the environment? What are the social–cognitive determinants that determine the intention and that (health) behavior can be detected? Intervention mapping step 1 is called the needs assessment.

In intervention mapping step 1, we explore whether health promotion or health education can contribute to the solution of the health problem. In this step, we first want to understand the health problem. We start from a health problem that is important in some way, for example, because the health problem is common, because it has an adverse effect on the quality of life, or because many nursing professionals see patients with this health problem. By analyzing the health problem, we obtain a numerical insight into the health problem. Because of this, we know if the health problem should be a priority and which patient (and group) needs special attention.

In intervention mapping step 1, the analysis of the health problem, there are two possible pitfalls (Kok et al. 2001). The main pitfall is that of a non-existent problem. No development of an intervention should take place for a problem that on closer inspection does not exist or hardly exists. An example is: should drinking alcohol be discouraged during pregnancy? Is it a real problem, or do most women not consume much alcohol during pregnancy? Look at the severity and scope of the health problem and work on it as if the health problem really exists. A second pitfall is that

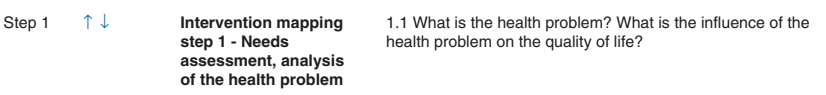

Fig. 4.3 Intervention mapping step 1.1: needs assessment, analysis of the health problem

there is no relationship between the health problem and the behavior of those involved. Attention should be paid to the relationship between the health problem and the recommended behavior. If behavior is not an issue, then another approach is more obvious and one stops using intervention mapping.

Step 1 can be divided into four sub-steps, which we discuss successively.

Step 1 intervention mapping. What is the health problem? What is the influence of the health problem on the quality of life? Perform an analysis of the health problem based on health indicators. Step 1.1 of intervention mapping (Fig. 4.3) answers the following questions: what is the health problem? What is the influence of the health problem on the quality of life? an analysis of the health problem can only be carried out by using health indicators.

The starting point of the needs assessment is a health problem, but it may also be a specific group of people, for example, if we see that the quality of life is negatively evaluated by a specific group of people. If we start from a specific group we come through a small detour to the health problem that is a major cause of reduced quality of life.

What is the health problem? Start with analyzing the health problem based on health indicators. How do you get started? What is the health problem? You start by analyzing the health problem based on health indicators and defines the importance of this health issue. To indicate the impact of a health problem on the health of humans, you make use of the health indicators from the epidemiology (see Sect. 2.1 for a detailed description of health indicators). By using health indicators, you gain an insight into the size and distribution of a health problem. The size of a health problem indicates the frequency in which the health problem occurs; this requires knowledge about the incidence and prevalence of the health problem. The distribution gives the breakdown of the health problem about times, places, and people.

By using health indicators, you also look at the severity of a health problem. The severity indicates the impact of a health problem on the quality of life. Is it as a serious health problem experienced by people who have that health problem? Judge people who have that health problem, their health is worse compared with people without that health problem?

By using health indicators, you attain numerical insight into the health problem: life expectancy, number of years of life lost, possible multi-morbidity, health differences, and perceived health. Disease or morbidity is an important health indicator, in addition to the number of people who die, or mortality. When the health problem is analyzed and the health indicators are described, what do you do next? If you have an overview of the health problem based on health indicators, you go more in-depth to look at the ways in which people experience this health problem; thus, the (subjective) assessment of the health problem. How do people experience their

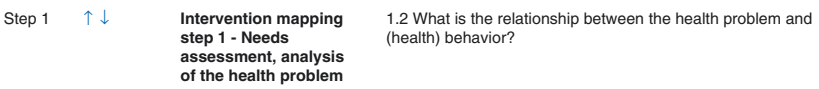

Fig. 4.4 Intervention mapping step 1.2: what is the relationship between the health problem and (health) behavior?

health problem? With what eyes do they look at their health problem? For example, it might be important for nursing professionals to gain a more profound insight into how people who use daily painkillers experience their health. What would help these people to solve the problems they encounter? Another example: what is the quality of life like perceived by elderly people with depression and what solutions to their loneliness do they see themselves?

Step 1.2 of intervention mapping (Fig. 4.4) provides an insight into the relationship between the health problem and (health) behavior. What is the relationship between the health problem and (health) behavior? For most health problems, (health) behavior has an important influence. Usually, not only one behavior plays a role, but the health problem is determined by a number of behaviors. Health behaviors can be divided into health-impairing behavior and health-enhancing behavior. Health-impairing behavior has a negative effect on health (status) or has the result that a person is exposed to a health problem. Examples of health-impairing behavior are too high a level of fat consumption, or using medication not according to the prescription, but to suit your way of living. Health-enhancing behavior leads to health benefits or protects the patient against the emergence or worsening of health problems. Examples of health-enhancing behavior are being physically active or maintaining the balance between activity and rest/sleep. In health education and in promoting patient self-management, the emphasis should be on limiting health-impairing behavior and promoting health-enhancing behavior. Thus, attention should be focused on promoting a lifestyle and (health)behavior that is desired for dealing with the health problem.

Behavioral analysis, in the inventory of the (health) behaviors that cause and aggravate a health problem. The goal is to identify (health-impairing or health-enhancing) behaviors that are related to the health problem

Environmental analysis, in the inventory of the environmental factors that cause and aggravate a health problem. The goal is to identify the relevant environmental factors that are related to the health problem

The purpose of the behavior analysis in step 1.2 of intervention mapping is to identify the relevant behaviors that are related to the health problem. If you want to motivate a patient toward different, healthier behavior and to improve patient self-management, it is important for you to understand the behaviors associated with a specific health problem. In the behavior analysis, you look at the (health) behaviors that cause and aggravate the health problem. Which health behaviors are associated

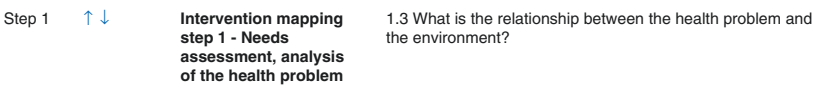

Fig. 4.5 Intervention mapping step 1.3: what is the relationship between the health problem and the environment?

with the corresponding health problem? Which health behaviors are important? Which health behaviors are specifically relevant to nursing? From the behavior analysis, it must be shown that there is a relationship between the health problem and the behavior. In addition to the influence of lifestyle and behavior on the health problem, it is important to identify the relationship with the environment.

Step 1.3 of intervention mapping (Fig. 4.5) gives an inventory of the environmental factors that cause and aggravate a health problem. The purpose of the environmental analysis is to analyze the relevant environmental factors that are related to the health problem. The environment in which we live also affects the health problem. An example of an environmental analysis is the analysis of an environment that can promote or hinder movement behavior. The questions to be answered are: what environmental factors are associated with the corresponding health problem? What environmental factors are important? What environmental factors are specifically relevant to nursing professionals? What environmental factors are under the influence of nursing professionals?

The environmental analysis can take place at various levels, such as at the level of a city or neighborhood. You can also visit the surroundings with a multi-structural viewpoint, such as looking at the physical environment or the socio-economic status of people. The Health Concept Lalonde (Sect. 2.1), offers nursing professionals clear handles for analyzing the influence of the determinants of lifestyle and behavior and environment on the health problem. From this health concept, it is also shown that behavior and environment have a mutual effect on each other. For example, a patient with diabetes may make less healthy food choices because of the food available in the company restaurant or nearest supermarket. As a healthy food choice is easier and within reach, and if the environment provides opportunities to be physically active, this may make behavior change easier. Making changes in the physical and social environment is easier than to teach people to cope with the obstacles in their environment. The environment can invite people to eat more healthily by limiting advertisements for unhealthy foods in the media, from fast food chains around schools and hospitals, and by increasing the availability of foods with low energy values. An environment can be shaped to encourage moving behavior. The environmental analysis is about detecting conditions so that people can live healthily, conditions under which people can live healthily in line with the health policy of their Government. Health policy is integrated policy, involving different areas. For example, sports and movement, or traffic and spatial planning.

- Example: assessment of a health problem
- The most influential environmental factors are sports, playing facilities, and physical education. According to de Bourdeaudehuij and Rzewnicki (2001), the most influential environment variable for increasing the moving

behavior of children and young people, is the availability of sports and playing facilities. Mandatory physical education classes form a second important environmental factor. Adults walk more if the environment is perceived as pleasant and women walk more if they have a pet. Children who live in neighborhoods with a lower socio-economic status, despite an increased risk of accidents and injury, are more likely to be physically active outside playing. Boys turn out to be physically more active outside if there is someone monitoring them, whereas girls are more active indoors without someone monitoring them (Baranowski et al. 2003).

- Urinary incontinence is a health problem of which there are three types. People can suffer from stress incontinence of the bladder wall, of overstimulation, or a combination of both forms. Which health indicators play a role? This involuntary urine leakage is a common complaint, about 25% in men and 75% in women. The prevalence is about 25–30% of the group in relatively younger women.
- What behaviors play a role? PFME therapy has been shown to be effective in women with stress incontinence or for women with the combined form of incontinence. Right after the therapy, approximately 70% is restored or improved dramatically, but this conversion rate is declining over time because of the relapse into the old, unwanted behavior. After a year the patient compliance is about 50% and after 5 years' follow-up around 40%, whereas in the meantime, the symptoms of incontinence had returned or increased in severity.

4.6 Intervention Mapping Step 1: Analysis of Lifestyle and Behavior

Determinants of behavior, or social–cognitive determinants, the determining factors of (health) behavior.

The underlying reasons why people behave in a certain way.

Health behavior is complex behavior:

- multiple (health) behaviors can play a role in one health problem;
- awareness of the risk;
- (health) behavior may be divided into part behaviors.

Social–cognitive determinants are the determining factors of behavior. Social–cognitive determinants are factors that make people behave in a certain way; thus, these are the underlying reasons why people undertake certain behavior. If you behave in a certain way, you do not always think about the underlying reasons, of course. For example, a patient with cardiovascular risk factors who does sports does not think constantly about why it is so important to get more exercise. However,

most people are able to describe the reasons for their movement behavior if specifically asked. We call this reasoned behavior.

The behavior that has emerged from the behavior analysis as being important is crucial. Social–cognitive determinants have a clear relationship with the health problem in the sense that they contribute to the creation and maintenance of the problem.

By analyzing the (health) behavior that underlies the health problem, it is important to wonder whether people know that they are behaving healthy or that they are performing unhealthy behavior. It turns out that sometimes people have a false picture of their health behavior, especially when the behavior is complicated or not clearly visible. For example: whether someone does sport is clear, but whether anyone eats too much saturated fat is much more difficult to fix. A person may not know this for himself and the health advice "eat less saturated fat" can be more difficult to make concrete. It is possible that people are not aware of the risky behavior. Often, multiple behaviors play a role in a particular health problem. For example, in the case of cardiovascular diseases and risk factors for cardiovascular health problems, movement behavior plays a role, but so do the intake of medications and dietary behavior. These multiple behaviors may complicate the underlying reasons why people behave in a certain way. In addition to not knowing if you are behaving in a risky way and the complexity of several lifestyle factors that play a role in one health problem, there is a third factor that makes health behavior more complex. Certain behavior may be divided into part behaviors. For example, movement behavior can involve sport activities or consist of moving at work (taking the stairs) or at home (gardening). To understand the reasons why patients behave in a certain way, you should have a clear view of the specific elements of the behavior.

Behaviors are often intertwined and not easy to separate from other behaviors. Behavior is determined by a complicated interplay of factors and changing lifestyle factors and behavior is not easy. People often want to behave differently, in a healthier way, but experience all kinds of obstacles to change. Barriers can include, for example, a lack of willpower. However, experiencing pleasure because of the unhealthy behavior is a barrier to behavior change. A significant factor is the influence of other people around you. Fortunately, it is possible to untangle the interlocking aspects of (health) behavior.

Damoiseaux et al. (1993) expresses clearly that to be able to influence (health) behavior, it is necessary to know what is hidden behind certain behaviors that promote or threaten health. With health promotion and health education, we want to motivate people toward other, healthier behavior. The social–cognitive determinants are the targets for behavioral change. If we know the social–cognitive determinants and thus know what the underlying reasons for the patient's (health) behavior, we can start to develop an intervention (Fig. 4.6).

- What is hidden behind certain behavior? Patients who do not visit the diabetes clinic differ from patients who do visit it. Patients who do not visit the diabetes clinic, experience more negative feelings. The diabetes patients who do not go for a consultation, have more difficulties with diabetes care and treatment. They experience less control over the health problem and have less confidence in the effectiveness of the treatment. They also experience more side effects and have a more pessimistic view of the future.

Step 1	↑ ↓	**Intervention mapping step 1 - Needs assessment, analysis of the health problem**	1.4 What are the social-cognitive determinants which determine the intention and (health) behavior?

Fig. 4.6 Intervention mapping step 1.4: which social–cognitive determinants determine intention and (health) behavior?

In step 1.4 Intervention Mapping, you explore the role that (health) behaviors play in the health problem; you want to know what influence lifestyle and behavior has on health.

4.6.1 Explaining (Health) Behavior

The Theory of Planned Behavior is a model to explain (health) behavior and to obtain a clear view of the social–cognitive determinants that affect and explain people's intention and behavior. With this model, we can explain the background of wanted and unwanted (health) behavior. What factors reward unwanted behavior? What factors hinder the desired behavior? The Theory of Planned Behavior arose from the Reasoned Action Approach Model (Fishbein and Ajzen 1975, 2010; Ajzen 1988; Bandura 1986). The Theory of Planned Behavior shows the underlying reasons why people behave in a certain way and is useful for identifying the social–cognitive determinants.

The starting point for the Theory of Planned Behavior is that people can indicate reasons why they behave in a certain way. It is not that those reasons "spin through the head" of a patient constantly when, for example, moving, taking medication or eating snacks. But if asked, the person can describe the reasons for his (healthy) behavior. The reasoning might be: "if I use less medication/eat snacks/have unsafe sex – I feel less sick/I am better able to concentrate/I am more relaxed. This is more important to me than damage to my health." The reasons for a specific behavior may differ per person, but are often the same for people with a specific health problem. For example, patients with cardiovascular risk factors have overall the same reasons to increase movement. The same is seen in patients who personalize their medication regime although there is a health problem, or people who often eat snack food, or people who do not always have safe sex. Sometimes people are not convinced of the advantages of the behavior. An intervention should stress the benefits of the desired behavior.

The Theory of Planned Behavior (or TPB model):

> "Teaches you to see where the bottlenecks to change exactly are at a certain target group. Sometimes a target is not convinced of the advantages of the behavior. ... An intervention should need to stress the benefits of the desired behavior. Sometimes people do not know

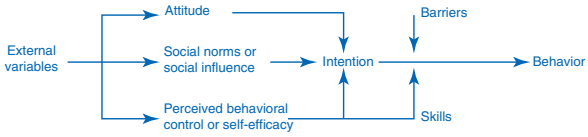

Fig. 4.7 Theory of Planned Behavior model: social–cognitive determinants of intention and (health) behavior

how they should deal with issues that they may encounter if they want to exhibit the new behavior. The intervention will have to address how you can solve these problems. Social–cognitive determinants need to get attention in an intervention" (De Vries 1999).

In Intervention Mapping step 1, the analysis of lifestyle and behavior, there is a possible pitfall (Kok et al. 2001). The pitfall that needs to be figured out is that an incorrect assessment is made of the reasons for behavior. It comes to the question of whether the real reasons why people exhibit certain behaviors are detected. For example, if women do not use folic acid before and during early pregnancy, is this due to a lack of knowledge or is it laziness?

The TPB model is shown in Fig. 4.7. The left side of the TPB model shows the external variables. External or background variables have indirect influences on people's behavior. This influence comes through the attitudes of the social–cognitive determinants, subjective norms or social influence, and perceived behavior control or self-efficacy. External variables are individual, social or education-focused. Examples of individual external variables are personality, mood and emotion, risk perception, and earlier behavior. However, individual external variables are also endogenous determinants associated with the health problem. Examples of external variables are education, age and gender, religion, and culture. Examples of education-targeted external variables are knowledge and the availability of social media.

The best way to understand the Theory of Planned Behavior, is if we look at the TPB model from the right to the left. We start to look at the social–cognitive determinant behavior in the TPB model. We depart from the desired behavior and want to figure out what reasons people have for exhibiting certain behavior. This can include all sorts of behaviors or lifestyle, that have a relationship with health or nothing at all to do with health. People have expectations of certain behavior, they have all kinds of thoughts, ideas, and considerations on how to perform certain behaviors that may be different for each behavior. People may even have very different expectations of similar behavior. They can have conscious and deliberate reasons for behaving in a certain way. It is also possible that there is unconscious and little elaborate "reason" for the behavior. The extremes are on the one hand to make informed, reasoned decisions and to behave accordingly, and on the other hand, routine behavior. All kinds of transitional forms are possible. The degree to which a patient behaves consciously, making reasoned choices for desired behavior, can differ from person to person.

4.6.2 Theory of Planned Behavior: Behavior and Intention

Behavior

Desired behavior: figuring out what reasons people have for performing or not performing certain (health) behavior.

Intention: planning or not planning to perform certain (health) behavior.

People often have good plans for starting to behave in a healthier way.

Converting a positive intention into the desired behavior is usually not easy.

According to the TPB model, the best way to predict behavior is to look at their intention. The intention is the planning of a certain behavior. For example, a patient with cardiovascular risk factors is planning to move every day. Or, a diabetes patient is going to stick to his diet, check his blood sugars regularly and take his medication. According to the TPB model, the intention is the person planning to perform the behavior. The intention of a person can be identified by asking: do you intend to .... (the desired behavior)? It is likely that you ... (the desired behavior)? For example, do you plan to exercise for 30 min every day? Is it likely that you will move 30 min every day? You ask people what the chance is that they will exhibit the desired behavior within a certain period of time, and whether they think the implementation of the desired behavior will succeed (Godin 1993). People's intentions can be different, even for related behaviors. For example, there is a difference in intention to brush teeth and to floss teeth. The intention to brush teeth is usually more positive than that to floss teeth (Tedesco et al. 1991). People's intentions can change through the influence of behavior. For example, the intention to participate in mammography decreases as the number of breast examinations to which the patient has already been subjected increases.

4.6.3 Theory of Planned Behavior: Barriers

People often have good intentions, good plans to behave differently, and in a healthier way. However, converting a positive intention and putting desired behavior into practice is no easy matter. The relationship between intention and eventually performing the behavior or not may be disrupted by barriers (Fig. 4.8).

Barriers dissuade people and a person is not capable of concerting his intention into actual behavior. Barriers disrupt the relationship between the intention and the behavior of a person. A person is planning to perform the desired behavior and has a positive intention. But this person does not perform the desired behavior, because

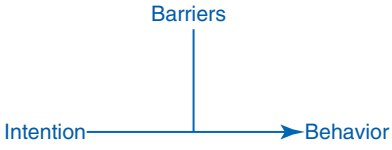

Fig. 4.8 Theory of Planned Behavior model: social–cognitive determinants intention, barriers, behavior

he experiences barriers. For example, patients with cardiovascular risk factors have positive intentions when it comes to moving, but when putting the plan into action they experience barriers. For example, a barrier is that moving takes up a lot of time. This means that they are not going to move on a daily basis. Or patients who are using anti-diuretics have a positive intention to take their daily medication, but the frequent need to go to the toilet is seen as a barrier, and they match their medication intake to their stay outdoors.

Converting the positive intention into the desired behavior can therefore be hampered by barriers. A person with a positive intention can plan the desired behavior to go out, but barriers can throw a spanner in the works and the person will not perform the behavior. Common barriers that people encounter are time constraints, conditions, and external circumstances that obstruct them from performing the behavior. First, a barrier may ensure that a positive intention changes over time into a negative intention. For example, a nursing professional makes an arrangement with the patient that if he is properly established on his insulin scheme, he will check his own blood sugar levels regularly when he is at home again. The patient has a positive intention, but over time back at home it turns out to be more complicated than the patient expected it to be and the intention is less positive or even negative. Second, certain conditions have been shown to be a barrier and obstruct the planned behavior. For example, the patient wants to stick to his diet, but an important condition is that his partner experiences the food they eat as tasty as well. If this is not the case, a person may adapt his intention in a negative way. Third, external circumstances may arise over which a person has no control and that stand in the way of behavioral change. For example, the patient with varying blood sugar levels should move more, and intends to do this when accompanied by a friend; if the friend is not able to attend or stops the movement behavior, the patient also stops. Barriers can obstruct the relationship between the intention and the desired behavior considerably.

4.6.4 Theory of Planned Behavior: Attitudes

In the TPB model, the intention as the predictor of behavior is affected by three social–cognitive determinants. The intention is formed by the combination of (1) attitudes, (2) the subjective norms or social influence, and (3) the perceived behavior control or self-efficacy (Fig. 4.9).

Attitudes, the result of balancing the advantages and disadvantages that a person connects to the behavior.

Considerations for the desired behavior with the appreciation of whether this will be positive or negative affects the intention.

Knowledge plays a role in attitudes, but is not a social–cognitive determinant.

Attitudes are affectively "colored."

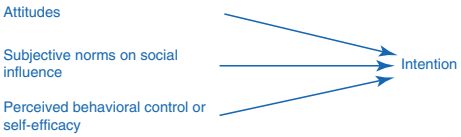

Fig. 4.9 Theory of Planned Behavior model: social–cognitive determinants attitudes, subjective norms, and perceived behavioral control

Fig. 4.10 Theory of Planned Behavior: social–cognitive determinants considerations and specific appreciations, attitudes, intentions

Attitudes are the social–cognitive determinant that directly affects the intention of a person. Attitudes give insight into the pros and cons attached to the (health) behavior. People link certain advantages to the behavior and certain disadvantages to the behavior. They balance these advantages and disadvantages against each other as if on a scale, and the benefits can offset the disadvantages. The pros and cons are viewed mostly in the short term. Attitudes are formed based on considerations and appreciations.

People have certain considerations, reasons, for behaving in a certain way. Considerations are important for making a reasoned decision to perform certain behavior. These considerations reflect a person's individual advantages and disadvantages. A consideration is: "the experienced probability that the behavior in question will have a particular result" (de Vries 2000).

An example of a consideration is that daily exercise is healthy. The person labels the consideration with a positive or negative rating. The consequences of the behavior are also given a rating. For example, I think it is important that I have a healthy, fit appearance. The attitude is the final result of the consideration of the pros and cons that are connected to the behavior for a person. The considerations for the desired behavior with the specific appreciation that this will be positive or negative affects the intention (Fig. 4.10).

The attitudes of a person can be identified by asking: "regular exercise/three times a day brushing teeth/always having safe sex" results in my having less backpain/not having bleeding gums/not getting HIV or a STD, and for me this is ... very important/important/less important/unimportant". But also: "if I don't move/do not brush my teeth/do not have safe sex, I can just do what I feel like/can quickly get into bed or go to work/never have to talk about condom use, and this is for me ... very important or very unimportant."

What is the importance of knowledge in attitudes? Knowledge plays a role in the formation of the social–cognitive determinant attitudes, but is not a standalone social–cognitive determinant. The knowledge that a person has plays a role in the balancing of pros and cons, in the considerations, and the appreciations. Knowledge is just one of many factors that affect behavior. Knowledge about the considerations and consequences of certain behavior, has an important impact on the ultimate

attitude. This is worded as follows: Knowledge can be a requirement for "doing," but knowledge is rarely sufficient for people "to do" (Meertens et al. 2001).

As a rule, knowledge about the (health) risks related to behavior does not lead "spontaneously" to a change in (health) behavior. For example, although a patient with cardiovascular risk factors knows that more intensive exercise will probably have a positive effect on his blood pressure and blood cholesterol after talking with a nursing professional, he will most likely not pick up his sports bag and go to the gym the same evening.

What is the importance of affective reactions in attitudes? Apart from knowledge, the affective, emotional sensations play a role in attitudes. The attitudes might be associated with certain positive or negative emotions that arise in the implementation of behavior (Ajzen and Driver 1992). Attitudes have an affective coloring, coupled with the advantages and disadvantages, and specifically the consequences. For example, taking a brisk walk three times a day for half an hour has benefits for physical health, but can also be relaxing and can result in feelings of satisfaction. Another example, going to the gym can recall memories of the gym classes at school, with fewer positive emotions.

The attitudes described above are not to be translated into the definition of attitude within the nursing profession. According to the TPB model, attitudes are about balancing the pros and cons with regard to (health) behavior. Within professional nursing practice, attitude describes the nursing professional's attitude toward patients and the care of patients in nursing.

- **Attitudes to moving behavior**. Important attitudes are that moving improves fitness, improves energy levels, and increases muscle strength and muscle tone, yields social contacts, and improves mental health. It is not that people will become more physically active because they know that a lack of physical activity increases the risk of health problems (de Bourdeaudehuij and Rzewnicki 2001). For attitudes to movement, both active and inactive people think it is important to get more exercise, but above all, the active people experience movement as being more pleasurable (Jansen et al. 2002). Older people are more afraid of injuries and unpleasant sensations associated with movement (Resnick 2000).
- **Attitudes to brushing teeth** are more positive than for flossing. For flossing, important attitudes are that flossing is healthy, useful, enjoyable, that it is rated as good preventive health behavior, that it removes dental plaque, and that it has a preventive effect on tooth loss (Tedesco et al. 1991).
- **Attitudes** of women with regard to **confidence in screening** mammography is not only the experienced chance of having cancer and increasing concern about cancer, but also experiences with the use of other preventive screening activities, such as screening for cervical cancer and dental visits.

4.6.5 Theory of Planned Behavior: Subjective Norms or Social Influence

Subjective norms or social influence, the extent to which a person may or may not agree to the views of others.
Views of others around you, referent views.
Motivation to conform.
Social support and social pressure.

In addition to the social–cognitive determinant attitudes, the intention of a person is directly affected by the social–cognitive determinant subjective norms or social influence (Fig. 4.11).

The social–cognitive determinant subjective norms or social influence is the extent to which a person agrees with the views of people from his social environment. This social–cognitive determinant is determined by the views of other people around you about a specific (health) behavior, and we call them referent beliefs. Intention may be influenced positively by these referent beliefs, or it may be attracted by these referent beliefs. This means that people comply with a referent to behave in a certain way, does not comply to a referent belief, or only partially comply to the referent belief. Referent beliefs are what anyone thinks that other people think. For example, "I think my partner and children belief that I must move more". The motivation to conform is the readiness of a person to endorse or not to endorse the beliefs of others and act accordingly. An example of the corresponding motivation to comply is: "what my partner and children think about my movement behavior is important to me, because then they think I am energetic and fit".

The groups to which a person belongs, or would like to belong, have an important influence on people's behavior. In a group, people must comply with certain rules and people tend to adapt if they want to belong to that group. This is the social influence on people's behavior, and this is what a patient experiences as consent or rejection of his (health) behavior. Social influence can be positive and we call this social support. Social influence can be negative and we call this social pressure. Social support includes providing information or providing emotional or material support. Social support is helpful for performing or learning certain behaviors. For example, a friend supports blood glucose checks and shows his interest with regard to injecting insulin. Another example is that the spouse reminds the patient to use his antidepressants to prevent a depressive episode in life. An example of social pressure is the negative social influence of drinking alcohol or smoking among young people.

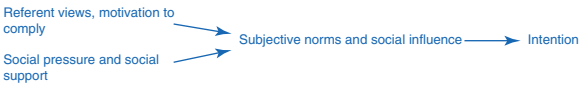

Fig. 4.11 Theory of Planned Behavior model: social–cognitive determinants subjective norms or social influence, intention

In addition to influencing behavior in a particular direction, one can also put pressure on a person to prevent him from changing his (long-term) behavior. An example of this is the constant comments of the partner that popping too many pills is not good and that the patient's manic behavior can be much better prevented by being "strong."

The subjective norms or social influence can be mapped by asking: "Do most people who are important to you think that you should move more/ follow your diet/ do your relaxation exercises?" This is followed by asking about the extent to which the person believes that others think that someone needs to move/follow a diet/do his relaxation exercises. Thus, asking about how often and with what intensity.

- The **subjective norms or social influence specific to movement behavior**, inactive people experience the people in their environment as having an active lifestyle more often than active people. Active people find the people that surround them more often as less active (Jansen et al. 2002). For adults, the social support of their partner and family is important in doing physical activity under supervision. This support they think is more important than the support of friends or the support of the supervisor of the activity. Adults who have a fixed "buddy" and are physically active together with another person, are significantly more physically active than those who don't (de Bourdeaudehuij and Rzewnicki 2001)

4.6.6 Theory of Planned Behavior: Perceived Behavioral Control and Self-Efficacy

Perceived behavior control and self-efficacy, the expectation that a person has of the feasibility of the behavior by:

Previous experience with the behavior;
Observation of the behavior of others;
Persuasion by others;
Physiological limitations.

The third social–cognitive determinant that affects the intention of a person directly, in addition to attitudes and subjective norms or social influence, is the perceived behavioral control or self-efficacy (Fig. 4.12). The perceived behavioral control or self-efficacy is the estimate that a person makes of the feasibility of the behavior. This social–cognitive determinant revolves around the question: "do you think you can?" According to Bandura (1986), the self-efficacy determines the possibility of someone exhibiting behavior or not. Expectations about self-efficacy are influenced by previous experiences that are gained with that behavior. Also, expectations about self-efficacy can be created by the observation of the behavior of others. In addition to the observation of the behavior of others, expectations about self-efficacy can be

Fig. 4.12 Theory of Planned Behavior model: perceived behavioral control or self-efficacy, intention

created by persuasion by other people. Also, physiological limitations affect the expectations about one's self-efficacy.

The practical skills needed to carry out the desired behavior, determines the assessment that a person makes of the feasibility of the behavior and are therefore important for the observed behavior control or self-efficacy. A person makes an estimation of the skills he needs for the behavior. If the person is going to perform or attempt to perform the behavior, he experiences whether he is actually in control. If the control is less than what is necessary to perform the behavior, then the person adjusts the perceived behavior control or self-efficacy. Skills play a role if the person attempts to perform the behavior. Just as barriers play a role in performing the desired behavior, so do the skills.

The perceived behavioral control or self-efficacy of a person can be identified by asking: "is the display of the desired behavior (more exercise, regulate blood glucose levels) extremely easy ... easy ... extremely difficult" and: "to be able to ... (get more exercise, regulate blood glucose levels), I should learn to be able to …"

Is the TPB model often used? By using the TPB model a good insight can be obtained into the underlying reasons for people to behave in a certain way. This model is widely used to assess social–cognitive determinants and is currently the model most frequently used to determine social–cognitive determinants. This means that the model is commonly applied by others and that there are many examples accessible in the literature. Search in the literature with the search terms theory of planned behavior, self-efficacy, barriers, subjective norms, social–cognitive determinants, and combine this with the health problem you are interested in (Fig. 4.7).

- **Active people** score higher on **self-efficacy** than inactive people (Jansen et al. 2002). According to de Bourdeaudehuij and Rzewnicki (2001), in many studies in adults it is shown that self-efficacy is the main social–cognitive determinant of physical activity. But: is a person more physically active because he has more confidence that he will be able to do so, or does a person have more confidence because he was physically active in the past?
- In the case of physical activity, a person's intention is more positive when experiencing control over the desired movement behavior. The greater the confidence of the person that he is able to be physically active and the greater the satisfaction about the extent to which he is physically active, the greater the participation in the exercise. Self-efficacy is an essential social–cognitive determinant for movement behavior.

4.7 Intervention Mapping Step 2: Defining Performance and Change Objectives

In step 2 of Intervention Mapping you start to give direction to solving the health problem of the patient (group). Step 2 of intervention mapping answers the questions: what is the overall purpose of the health education intervention? What are the performance objectives of the intervention, the behavioral goals of the intervention? What are the change objectives of the health education intervention? How can we change the social–cognitive determinants of intention and behavior? (Fig. 4.13).

According to Green and Kreuter (2005), behaviors should be viewed to the extent to which they are important and whether they can be changed. Important behavior is behavior that shows higher numbers and for which the link with the health problem is clearly detectable. Less important is behavior that has lower numbers or that only has an indirect link to health problems. How changeable is the selected behavior? If behavior is still in development or newly formed (e.g., among young people), it is highly changeable. If the behavior is not deeply woven into habits, patterns, or lifestyles, there is also a high degree of changeability. The mutability is also high if the behavior is only superficially connected to certain patterns or lifestyles.

Behavior has a low degree of changeability, as it has long been established and deeply entrenched in certain patterns or lifestyles. Certain behaviors can be very important in relation to a health problem, but impossible to change. Behavior may also be important, but the desired change is very time consuming. How much time is there for a change? Is behavior anchored more deeply or is more widespread, is the factor of time more important?

4.7.1 Objectives

Kok et al. (1997) name four types of objectives of health education interventions. An objective or goal may be preventing unhealthy behavior from being continued over a longer period. This objective is focused on encouraging people to stop the unwanted behavior. A health intervention may also be aimed at ensuring that certain unhealthy behavior is never performed. The objective is then aimed at preventing the target group from performing undesirable behavior. For example, preventing young people from becoming inactive, ever having unprotected sex, or never consuming excessive amounts of alcohol. A third objective may be an increase in healthy behavior for the people in the target group; the intervention has the objective

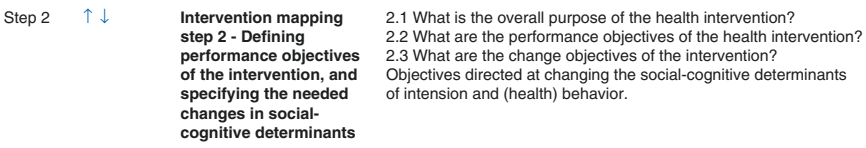

Fig. 4.13 Intervention mapping step 2: defining performance and changing objectives of the health education intervention

of increasing healthier behavior. The goal is then focused on expanding healthy behavior. For example, expanding the movement behavior of diabetic patients so that move at a higher intensity. The last type of objective is to avoid a decrease in healthy behaviors. The goal is aimed at maintaining a behavioral change. The behavior change should be converted into behavior maintenance. If the behavior change has taken place over a period of time, attention can be directed at maintaining the lifestyle change. For example, gastric patients taking their medication at the agreed daily dosage and during the day eating small portions of food.

Objectives should meet certain criteria. Objectives should always be specific and measurable, and be realized during a specific period. In defining the objective, we must take into account the costs and/or available sources. The starting point is always that the goal must be relevant for the person it concerns. Finally, the goal must have a detectable result. In practice, this means that in each target the following is described: who it concerns; what behavioral change is to be expected; to what extent and when the behavior change should be displayed (Ross and Mico 1980).

There are other important considerations in formulating objectives. The effect of a goal is greater when goals are specific and challenging for the patient. Specific and challenging goals lead to better results than easy "do-your-best-goals." Goals must also be clear and realistic. If the patient experiences the goal as unattainable, the effort he makes to achieve that goal is minor and when the patient experiences a setback, he will quickly stop.

Another concern is that a patient must accept the purpose and must feel involved. An easy way is to ask the patient what he wants (to start with) and formulate goals together. A patient must also possess the skills to carry out the objective. Finally, feedback on the implementation of the objectives is necessary. Goals should be formulated in such a way as to be transparent and systematic for you as a nursing professional. To do this, it is best to go along with the patient's goals for the short, medium, and long term. For you as a nursing professional, this is the visibility and efficiency of the action plan. It improves the acting plan when you together with the patient state the goals for the short, medium and long term. For the patient, objectives are focused on the benefits of behavioral change, because this will be the most challenging in the short term.

4.7.2 Performance Objectives

The performance objectives provide direction to the health intervention; these are the intended effects of the health-based intervention. The core of the performance objectives is what patients should do to adopt the desired behavior. If you involve the environment in your intervention, the core is what in the environment (factors) would have to change and who should do this. With the end goal in mind, you define the performance objectives for your intervention. In five to seven performance objectives, you describe how you enable the patient to adopt the desired behavior. Examples of performance goals for the patient with cardiovascular risk factors: has an insight into the relationship between the cardiovascular risk and (the intensity) of physical activity; makes an explicit plan for physical activity; identifies barriers and searches for solutions to handle barriers related to physical activity; makes explicit plans for dealing with difficult situations that occur during physical activity;

maintains the active lifestyle by preventing relapse in inactivity" (Sassen et al. 2012). The performance goals are arranged in such a way that the end goal of the desired behavior can be achieved. In the preceding example, this "maintains the active lifestyle." Another example of behavioral goals, focused on incontinence: performs correct toilet and drinking behavior; sits upright during the toilet visit and relaxes the pelvic floor muscles during micturition; drinks 1,500–2,000 ml per day, women should have frequent urination; and should work on a normal frequency of approximately seven urine discharges per day (Alewijnse et al. 2002).

Behavioral goals are relatively easy to formulate, as follows. First, describe the patient with the health problem. Then formulate a behavioral goal with regard to understanding the relationship between the health problem and the desired behavior. Formulate a behavioral goal with regard to making an explicit plan for the desired behavior. Next, formulate a behavioral goal aimed at the search for solutions to obstacles that may prevent the patient from performing the desired behavior. This is in addition to the behavioral goal focused on making explicit plans for dealing with difficult situations that the patient may encounter in implementing the desired behavior. Finally, formulate a performance objective targeted at maintaining the desired behavior by preventing relapse (in undesired behavior).

4.7.3 Change Objectives

The change objectives of the intervention give an insight into the changes needed to meet the performance objectives. For the formulation of the change objectives, always look back at the social–cognitive determinants. The social–cognitive determinants are described in intervention mapping step 1. In intervention mapping step 2, look at the importance and the changeability of the social–cognitive determinants that play a role in the intention and behavior with the health problem. These social–cognitive determinants are specified in the change objectives. All social–cognitive determinants specified from the Theory of Planned Behavior should be given attention and specified in the change objectives. In your change objectives, you describe what changes in social–cognitive determinants are necessary to achieve the performance objectives.

In intervention mapping step 2, a matrix is used (Fig. 4.14), in which performance and change objectives are described. In the matrix, you start with the

Performance objectives	*Social-cognitive determinants, TPB-determinants*				
↓	Risk-perception and knowledge	Attitudes	Subjective norms and social influence	Perceived-behavioral control and self-efficacy	Barriers
Performance objective 1	Change objective	Change objective	Change objective	Change objective	Change objective
Performance objective 2	Change objective	Change objective	Change objective	Change objective	Change objective
etc.	Change objective	Change objective	Change objective	Change objective	Change objective

Fig. 4.14 Intervention mapping step 2: matrix performance and change objectives

performance objectives and put these in the left column. Then you formulate the change objectives and these are the specifications of the changes needed in the social–cognitive determinants. In the matrix, the performance objectives are in the left column with the social–cognitive determinants positioned in the upper row. The "crossing" of the column with the performance objectives with the row with social–cognitive determinants, provides an insight into the change objectives. For example, if we start from the performance objective "makes an explicit plan for physical activity." This includes the following formulated change goals. Based on the social–cognitive determinant risk perception and knowledge: "the patient knows that planning is important for physical activity". Based on the social–cognitive determinant attitudes, "the patient describes the personal benefits of planning." Based on subjective norms or social influence: "the patient has confidence that he can plan within its social conditions." Based on perceived behavioral control or self-efficacy: "the patient describes when, where, and how he will be physically active." In this example, no change objective has been formulated for barriers.

To give another example, if we start from the previously described behavior goal with regard to incontinence, the following change objectives were formulated. Based on risk perception and knowledge: "the patient describes a normal micturition pattern in terms of relaxation." Based on attitude: "the patient expects that voiding more often or less often than seven times a day can cause incontinence problems" and "that drinking 1,500–2,000 ml per day is necessary to prevent kidney and bladder problems." Based on the subjective norms and social influence: "the patient discusses problems with drinking and toilet visits with significant others." Based on the perceived behavioral control and self-efficacy: "the patient reminds himself to drink enough and to visit the toilet seven times a day" and "the patient pays attention to the correct posture while using the bathroom." Finally, assuming barriers: "the patient discusses uncertainties and concerns that are a barrier to performing the appropriate exercises well."

Thus, you fill the array of performance objectives set against social–cognitive determinants (Fig. 4.14) with change objectives. You start thinking about performance objectives and state which changes in social–cognitive determinants are needed; you determine whether a change in the social–cognitive determinant is necessary to achieve this goal of conduct. If so, you put the necessary change in a change objective. Each performance objective thus has some change objectives. These change objectives are the sub-goals of the performance objectives. But to achieve a performance objective, certain social–cognitive determinants are unimportant; this box in the matrix remains blank. Thus, you make an array filled with specific change objectives for the (sub) patient group. You describe this as follows: what do we want that the members of the patient group to go and learn exactly? And with regard to the environmental factors: what changes in the environment do we want exactly?

The matrix delivers, shown from left to right, for each performance objective or main purpose of the health intervention, the change goals or sub-goals. The matrix provides you with top–down views: all the knowledge-related goals, all the attitude-related goals, all targets related to subjective norms and social influence, all

perceived behavior control-related goals and all goals related to barriers. For example, from the social–cognitive determinant attitudes: "the patient sees the health benefits of exercise more"; "the patient describes the personal benefits of good planning"; "the patient describes negative feelings and thoughts connected with moving more"; "the patient admits that he is convinced that moving is important" and "the patient proposes that after relapse restart is the best response." Another example from the social–cognitive determinant subjective norms or social influence for children with COPD and the use of an inhaler: "a child with COPD describes significant others who support the use of the inhaler"; "the child has confidence in the use of the inhaler in social conditions," and "the child has confidence in handling negative social reactions."

To check if your end goal or overall goal of the health intervention can be achieved with the formulated performance and change objectives, you can ask yourself the following question: if the performance objectives and change objectives are viewed together, is it any good to imagine that this, the end goal in terms of the desired behavior, can be achieved?

4.8 Intervention Mapping Step 3: Methods and Theories for Change Intention and Behavior

In intervention mapping step 3, you view the literature looking for methods and theories for changing social–cognitive determinants, changing intention, and changing the (health) behavior in your patient group. These theory-based methods are used in step 4 of intervention mapping, if you design health intervention. The methods determine the effectiveness of your health intervention. In step 2 of intervention mapping, you have stated the performance and change objectives of the health intervention, and you know on which social–cognitive determinants you should focus. In step 3 of intervention mapping (Fig. 4.15), you select theory-based methods, look at the requirements for the use of these methods, and describe the conditions and strategies.

The question is: when choosing a method, by which method can the change in the social–cognitive determinants lead to the achievement of the specific performance objective and change objectives? If the objective concerns attitudes, for example, the method of new arguments or self (re) evaluation is an appropriate way to change attitude. If the intervention is all about applying social influence, for example, increasing assertiveness is a suitable method (Brug et al. 2001).

Step 3	↑ ↓	**Intervention mapping step 3 - Methods and theories with which social-cognitive determinants of intention and (health) behavior can be changed.**	Which evidence-based methods can change the social-cognitive determinants and lead to the achievement of the performance objectives and change objectives?

Fig. 4.15 Intervention mapping step 3: identify methods and theories with which the social–cognitive determinants of intention and behavior can be changed

A health intervention, as mentioned earlier, is not only concerned with improving a patient's knowledge, patients are not waiting to be informed, and patients' minds are not blank. We call this the empty vessel fallacy (Green et al. 2006). Patients often have reasons for their lifestyle, and need good reasons and to be well-equipped to change (health) behavior. There are wide-ranging reasons why people do something or do not, and may or may not change their behavior, and this requires more of an alignment and connection to the individual situation. Connecting personal motivation and the knowledge and insights of the patient is therefore essential. Because patients differ in motivation, knowledge, and understanding, personal tailoring of the health intervention to the specific patient is important. If a patient is facing a health problem or if it is likely to be a chronic health problem, he may consider a lifestyle change earlier, but this may not be the case. The use of health education is only useful when it is foreseeable that a learning experience leads to a change in social–cognitive determinants, intention, and behavior. Easily informing the patient without any form of (self-management) support, is not effective and does not show an effect on health (Gibson 2002 in Coster and Norman 2009).

In step 3 of intervention mapping (Fig. 4.15) you identify methods and theories with which the social–cognitive determinants of intention and the behavior can be changed. Select theoretical methods or theories, whose effectiveness (for nursing professionals) has been demonstrated. Before you start with this selection you will develop an overall idea for your health-intervention. The specific shaping of the health-intervention based on the selected methods and theories, you do in step 4.

There are many methods for behavioral change that are only effective under specific conditions (Schaalma and Kok 2009). There is a strong need for research into which methods work under what conditions and to what the practical implications and the parameters for effectiveness are (Peters et al. 2013). Based on such research you can select methods for behavioral change. According to Achterberg et al. (2010) health care providers should not think that disclosure, offering materials or social support is the only way for a patient to promote behavioral change. Health care providers should look for methods that are effective at motivating the patient to other health- or self-management behavior.

What methods and theories from the literature can be used to change social–cognitive determinants of intention and behavior? In the literature, effective interventions and effective methods and theories that were used in these interventions (by nursing professionals) can be found. If you select and use these methods and theories as the building blocks for your health intervention, it has a greater chance of success.

4.8.1 Usefull Methods for Changing (Health) Behavior, Risk-Perception

When do you use the method of risk perception? A useful method that makes patients take a closer look at the risk of them suffering from a particular health problem is risk perception. With this method, a patient is encouraged to reflect on his individual risk and individual vulnerability to the health problem. The method of risk

perception is focused on the determinants risk perception and knowledge and is aimed at the patient's understanding of the relationship between the health problem and the desired (health) behavior. An example is the understanding of the relationship between cardiovascular risk factors and movement behavior; the method of risk perception is aimed at the patient understanding that changing his lifestyle and moving more have a beneficial effect on these risk factors and his health risk. Another example is the understanding of the relationship between diabetes and the regulation of blood sugar levels; the method of risk perception is aimed at the patient understanding that regulating his glucose levels (medication intake, defining blood values, applying an insulin pump set) has a beneficial effect on blood glucose values, feelings of well-being, and greater independence, and lowers his risk of diabetes-related complications. A review showed that risk communication is effective in 52% of the studies (Achterberg et al. 2010).

If a patient realizes that certain behavior has a (potential) health risk, this is sometimes sufficient to motivate him to change his own behavior or to adhere to the given health advice more thoroughly. But if the (potential) health risk is highlighted too much, it usually has the opposite effect. Warnings do not motivate the patient to follow a lifestyle or health advice. A low level of concern can stimulate a patient to follow an opinion, but a higher degree of concern or anxiety can be demotivating and crippling. Warnings, concern or anxiety interfere unfavorably with learning and with the behavior change process and can even block it. As a nursing professional, you run the risk of removing the patient/client relationship of cooperation and confidence.

4.8.2 Usefull Methods for Changing (Health) Behavior, Decisional Balance

Which method is useful for patients to obtain a representation of the desired behavior? A useful method for patients to obtain a representation of the desired behavior is decisional balance.

What is the decisional balance method? With this method, you encourage a patient to make an inventory and create a list of the advantages and disadvantages of the desired behavior change. It comes down to the advantages and the disadvantages as to whether the patient may or might not change his lifestyle, in both the long term and the short term. The decisional balance method is focused on the social–cognitive determinants attitudes and outcome expectations. The method is aimed at the patient making a critical presentation of the behavior, and evaluating the behavior in terms of costs and benefits. For example, this method is suitable for patients with cardiovascular risk factors: to understand the personal benefits of moving more and becoming more physically active in the short term, and benefits such as feeling more energetic and having more energy for everyday life, and that they are doing something to decrease their cardiovascular risk. For example, the method is also suitable for patients with diabetes, to understand the personal benefits of self-management, such as increasing care independence and achieving a better well-being, with a realistic view of the disadvantages.

The patient usually connects more not-so-good aspects to the desired behavior change than good aspects. These not-so-good aspects are usually important for the patient. Making a decisional balance by using the format balance sheet is preparing the patient for the behavioral change. The decisional balance method is aimed at the patient balancing the pros and cons of the desired or undesired behavior, and the time factor playing a role. If the personal benefits outweigh the disadvantages, this is a good start in the direction of being prepared to change intention and behavior. If the disadvantages prevail and the patient also obtains no benefits in the short term, the intermediate step is to focus on the search for a balance between the advantages and disadvantages. The method of decisional balance of pros and cons has proven to be effective for the health problems cancer and diabetes (Strong and Liang 2009 in: McGowan 2012, Kellar et al. 2008 in: McGowan 2012).

4.8.3 Usefull Methods for Changing (Health) Behavior, Handling Social Influence

Which methods are useful for patients to handle social pressure? There are also useful methods for patients to learn how to cope with the pressure that other people put on them. A useful method is to increase the resistance to social pressure and mobilize others for social support. We call these methods, resistance to social pressure and mobilizing others for social support. People are encouraged and taught to resist social pressure and search for social support. Social influence on the patients can come from many places, for example, family, neighbors, colleagues, and the media, but also from nursing professionals and other health care providers. The method of resistance to social pressure and mobilizing others for social support is aimed at the determinants subjective norms and social influence. The method resistance to social pressure is aimed at the patient developing social skills to learn to deal with people in his environment who have an unfavorable influence on the desired behavior. The method mobilizing social support is aimed at the patient developing a network of people who can offer support for the desired behavior. For many patients, about two to four others give social support. Examples of looking for support are finding a "buddy" with whom to exercise, or reaching out to a group of people (with the same health problem) and working out together. The method may also be aimed at getting the hang of social skills equipping a person so that he can be resilient if he gets negative comments about his movement behavior from people in the social environment.

There are a number of categories of social support: emotional support, educational support, practical support, and appraisal support. Emotional support mainly offers warmth and support, and confirms the patient that he is a valuable person. This category of social support also includes approval and appreciation for the patient's behavior. Educational support consists of providing the patient with advice, information, and education. This category of social support includes health information. Practical support consists of providing material or practical support to the patient. Appraisal support is support whereby a person in a stressful event has a better understanding of the situation and can handle the situation in a better way. Emotional and educational support affects the implementation of the behavior and is a protective factor for positive health effects (Bartholomew et al. 2011).

The concept of social facilitation includes social influence and social support. In a review, it is shown that social support is effective in 50% of the studies (Achterberg et al. 2010).

- **Biotechnical solutions.** For patients with diabetes, there are all sorts of biotechnical solutions available for checking blood pressure and blood sugar levels. These biotechnical solutions reduce the chance of complications. But behavior change and behavior preservation are essential for the self-management of the patient with diabetes (Doherty et al. 2000).

What influence does the behavior of others have on the health behavior of the patient? People learn (health) behavior by observing the behavior of others. Learning by observation is one of the learning theories or social–cognitive theories of Bandura (1986). Based on the observation of the (health) behavior of those around them, people develop ideas and learn the (health) behavior that is appropriate to their own situation. Developing new behavior based on observed behavior is a creative process. New behavior that yields rewards is carried out more frequently. The behavioral repertoire of the person who mimics the behavior is extended. Thus, this person learns new behaviors. The new (health) behavior can have both a convenient or an adverse effect on health. The behavior can, for example, teach someone to handle stress, or it could teach someone to learn to eat snacks or start smoking. If a person is rewarded for a specific behavior, he will perform that behavior more often, but if a person is punished for specific behavior, then he will not do the same thing again. Learning theories offer nursing professionals insight into the creation and the persistence of (health) behavior.

4.8.4 Usefull Methods for Changing (Health) Behavior, Guided Practice

What is guided practice? Another method of behavioral change is guided practice. With this method, people are encouraged to learn practical skills. Targeted feedback is helpful in getting the hang of the skills and often the practicing of sub-skills is needed to gain control of the skill as a whole. The method-guided practice is focused on the determinant perceived behavioral control and self-efficacy. A strategy that nursing professionals can commit to is to increase the perceived behavioral control and self-efficacy, dividing the skill into a number of sub-skills, when a patient has to learn a complex skill. This requires the nursing professional to have a good understanding of the intended behavior and of how a person can develop skills. The (sub-)skills are taught in a logical order. Bandura (1986) calls this modeling with guided enactment. This method is the optimal way to increase self-efficacy and handle behavioral control. According to Bandura, it can involve learning skills and sub-skills, but also observation of others who show control over the desired skill. By giving feedback to the patient, the (sub) skills are learnt in simple and in tricky situations. According to Schaalma et al. (2001a, b), it is not the case that people learn the skills during this process, but they experience that they can do it, increasing confidence in their own abilities.

4.8.5 Usefull Methods for Changing (Health) Behavior, Action Planning

What is action planning? The method action planning is focused on planning the behavioral change, a specific and important step toward improving self-management. The method action planning is focused on the intention determinant. The method is aimed at planning the behavior change, where the patient is going to make a plan for changing (health) behavior. For example: the patient with cardiovascular risk factors makes a plan (along with the nursing professional) to move more and, above all, to increase the intensity of physical activity. Action planning initiates changes in intention. Action planning is about planning the (health) behavior, so that the patient starts to behave in a healthier way and that he starts action. Action planning can focus on initiating new behavior, as in the case of self-management for patients with chronic health problems. Action planning can also involve changing existing behavior, as in the case of unhealthy eating habits. Or action planning may be directed at stopping unwanted behavior, such as unprotected sex. The method of action planning is aimed at the patient specifying when, where, and how he will carry out the desired behavior. We call this the formulation of implementation intentions (Gollwitzer and Schaal 1998).

An example of action planning, the patient specifies daily (when), in the gym (where) to go to move through 30 min walking briskly on a treadmill (how). Another example, the patient specifies every day for every meal (when), at home or at work (where) to determine his blood sugars and insulin pump (how). If the patient formulates his own plan and establishes his own implementation intentions, it is more likely that he will actually achieve these goals and it is more likely that he is going to perform the desired behavior (Achtziger et al. 2008). For action planning and specifically to increase the behavior control and self-efficacy, improving self-efficacy step by step is desirable. Although action planning and formulating goals are often used in interventions, the method is only effective if these are used in addition to other methods (Bodenheimer and Handley 2009 in: McGowan 2012).

For self-management support, the patient should choose for themselves what specific health or self-management behavior should be changed. On this basis, a patient can make a patient-specific action plan, in which the goals are achievable for the patient and in particular, the self-efficacy and behavior control of the patient are increased. The patient should have confidence or should gain confidence in his own ability to get started with the action plan and his own stated goals. The patient who formulates his own goals and receives feedback on the implementation of these goals by a nursing professional will achieve these goals more often and this results in better self-management. If the patient has no specific goals or formulates general goals without an underlying patient-specific action plan, no results will be achieved.

4.8.6 Useful Methods for Changing (Health) Behavior, Coping Planning

What is coping planning? The method of coping planning requires the identification of high-risk situations. High-risk situations can obstruct the patient from the desired behavioral change. High-risk situations can keep the patient from changing his behavior, even though the patient was planning to do so (Sniehotta 2009). We call

this relapse (Marlat and Gordon 1985). Relapse is not uncommon and many patients experience this when (planning to) change (health) behavior. Relapse is something often experienced by patients, not just once, but often many times. Nursing professionals should prepare patients that high-risk situations will occur during behavior change and that a coping plan is useful for handling these situations.

In addition to identifying high-risk situations is learning the right coping response to deal with them. The method of coping planning is focused on the social–cognitive determinant barriers and the skills to handle barriers, and to continue with the behavior change. Actually, almost every patient who changes his (health) behavior will run up against barriers of behavioral change. For example, the patient with cardiovascular risk factors has included in his action plan the goal to be physically active daily, but feels like he has flu or has a sick child. These barriers ask for a focused coping response. Coping planning allows the patient to get more of a grip on the process of behavior change (Sniehotta et al. 2006). If the patient has his own explicit plan for dealing with potentially difficult situations, it is more likely that he will perform the desired behavior and that relapse is prevented (Marlat and Gordon 1985).

- **Action planning and goal setting** have been effective when following a diet, exercising more, and losing weight, and results in better clinical outcomes (McGowan 2012).

A literature review (Norris et al. 2001 in McGowan 2012), it turned out that providing (even specific) patient information for patients with diabetes did not lead to better blood sugar.

4.9 Intervention Mapping Step 4: Designing the Health Intervention

Step 4 of intervention mapping (Fig. 4.16) consists of designing the health intervention to change social–cognitive determinants, intention, and (health) behavior in your target group of patients with a specific health problem. Based on the result of step 3, the methods and theories are selected that seem suitable to achieve step 2 performance and change objectives, and you start designing the health intervention. The purpose of step 4 is to develop an intervention for the specific patient group under focus. If specific tools are needed in the intervention, you select available and usable tools, because designing new tools is a task for specialists.

What do we know about intervention effectiveness? Interventions that create a change in the social–cognitive determinants attitudes, subjective norms and social influence, and perceived behavior control and self-efficacy, have a substantial

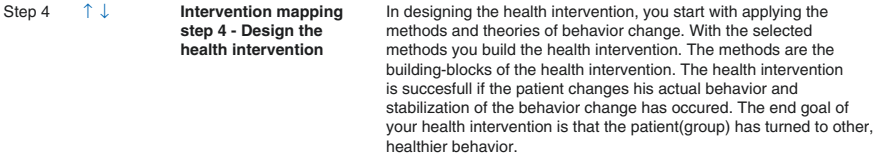

Fig. 4.16 Intervention mapping step 4: designing the health intervention

impact on the intention (Fife-Shaw et al. 2007). Thus, if you want to bring about a change in the intention, in the planning of the patient to behave differently and more healthily, you start focusing on changing attitudes, changing subjective norms, and increasing self-efficacy. Also, the interventions that provide specific changes in intention have a larger influence on achieving behavioral changes (Webb and Sheeran 2006; Godin and Conner 2008; Godin et al. 2010). Furthermore, a systematic review and meta-analysis demonstrated that the effectiveness of a health intervention increases as the number of methods or theories used increases (De Bruin et al. 2010; Webb et al. 2010). Finally, a key issue for nursing professionals is that the effectiveness of methods to change social–cognitive determinants, intention, and (health) behavior decreases as standard care increases (De Bruin et al. 2010). A pitfall in the development of a health intervention is not to identify the best intervention to achieve the goals of the intervention (Kok et al. 2001).

Useful tools to support the intervention? Tools that can be deployed to support your health intervention include a leaflet, a brochure, a video, or a workbook. When using the tools, it is important to determine at what level an effect should be expected. Using a folder makes sense in support of informing the patient about his health problem and for risk perception. Using a workbook makes sense to support the planning of the action and coping, the plans the patient makes to change his intention and change his behavior with regard to high-risk situations. The use of video images teaches social or practical skills. The use of tools can promote the learning of the patient and his interest and involvement in education.

What is tailoring? Tailoring is computer-controlled health education, based on the needs and characteristics of individual recipients. A patient receives individual expert advice through a letter, or an audio or video message. The person first creates a profile by completing a questionnaire. Based on the profile, behavioral advice or the support of specific behavioral advice is generated by a computer, an app or a website. In this way, a person receives targeted and appropriate personal advice or the personally desired support of the opinion, a reminder on the run, or an alternative way of thinking. This makes the method suitable for large target groups in a relatively short period. The benefits of tailoring are that a patient does not receive excessive or irrelevant education, and it has the ability to obtain individual feedback on progress or relapse.

> ▶ **Tailoring** has been shown to be effective in the self-management of asthma in children. This computer-controlled, tailored intervention turned out to be effective. Children were admitted to the hospital less frequently. The children reported fewer disease-related complaints, had more knowledge about the symptoms related to asthma, and knew how to deal with that; also, they had more knowledge about asthma in general. The effect of the intervention was also that parents coped better with both the child and the child's disease (Bartholomew et al. 2000).

In step 4 of intervention mapping, you design the health intervention. The goals you want to achieve as a nursing professional with the provision of

health intervention are changes in social–cognitive determinants, intention, and behavior. You can reach these goals by a focused intervention process with the patient (group). Health education is effective if a nursing professional motivates a patient to behave differently, in a healthier way, more in concordance with health outcomes. Patients should themselves opt for this different, healthier behavior. Increasing the motivation is the attribute that health education stands out from other methods of influencing (health) behavior (Kok et al. 1997). The focus of health education is a voluntary behavior change of the patient.

The provision of the health intervention is successful if the patient changes his actual behavior and stabilization of the behavior change has occurred. This means that the patient has changed his lifestyle, has created a new lifestyle, and has shown that he is able to continue this over a longer period. In step 4 of intervention mapping, the end goal of your health intervention is that the patient (group) has turned to different, healthier behavior.

In designing the health intervention, you start with applying the methods and theories of behavior change that you have selected in step 3 of intervention mapping. With these methods, you build the health intervention. The methods are the building blocks of the health intervention.

4.10 Intervention Mapping Step 4: Model of Behavior Change

Model of behavior change:

1. Contacting the patient, risk perception.
2. Changing the social–cognitive determinant – attitude.
3. Changing the social–cognitive determinant – subjective norms and social influence.
4. Changing social–cognitive determinant – perceived behavioral control and self-efficacy.
5. Achieving changes in (health) behavior.
6. Sustaining changes in (health) behavior.

→ Improving the patient's self-management.

To bring about a change in behavior using a health intervention, you should first make contact with the patient as a nursing professional, make changes in social–cognitive determinants, change the behavior, and the behavioral change should be preserved (Kok 1986, 1993; Kok et al. 1997; Assema et al. 1996) (See also Sect. 5.16, with in Sect. 5.28 a training to improve patient self-management; see also Sect. 6.7, with in Sect. 6.9 the training of nursing professionals to become health coaches).

4.10.1 Model of Behavior Change: Contact the Patient, Risk Perception

Model of behavior change: contact the patient (group), risk perception.
Relationship between the health problem and the desired (health) behavior.
Selective perception, selective exposure.
→ Improving the patient's self-management.

The first step in the Model of Behavior Change is making contact with your patient (group). In this phase, it is important to invite the patient to participate actively in the conversations and in the care process. Tell the patient you are interested in his thoughts and wishes and that you intend to cooperate with him, and to exchange thoughts and feelings. Tell the patient that you have positive experiences working together on improving patients' health situation. Start the communication by asking for what reason or problem the patient is visiting you, what his expectations are, and what the patient thinks the "solution" is for his problem or worries.

People make an estimation of the chance they have of getting a particular health problem. In general, they underestimate their individual risk and they are inclined to think that people other than themselves are at risk. We choose the method of risk perception, conceptualized in intervention mapping step 3. At the start of the provision of the health intervention, it is important to emphasize people's individual risk. The patient should be encouraged to reflect on their individual risk and its vulnerability to the health problem. With this first part of your intervention, the aim is that the patient understands the relationship between the health problem and the desired (health) behavior. It is important to fit in with the patient's existing knowledge of the health problem, and their age, values and norms, and experiences. It has an effective result, if the patient is invited to reflect on the relationship between lifestyle and health problem. The invitation to participate in the intervention improves the effectiveness. The more intelligent the patient is, the harder it is to convince them. The patient should understand (the essence of) the relationship between lifestyle and health problem, and needs to remember this. Health education should be presented in such a way that it is relevant and understandable to the patient. Not every patient is given the same prescription (diet, medicine). Similarly, not every patient with the same health and/or lifestyle advice should receive it for a similar health problem (Falvo 2004). Repetition is good, you can also let the patient repeat something or write it down, or give him a brochure based on the verbal conversation. If a patient shortly after a nursing consultation receives conflicting information, this may have an influence on your information. Informing the patient does not mean automatically that there is a learning process.

What makes risk-perception difficult? People get health education from many quarters. It is difficult for them to determine what applies and what does not apply to their individual (health) situation. The patient should be starting to feel involved in the health intervention. Selective perception and selective exposure can obstruct risk perception.

What is selective perception? Selective perception is when a patient is not motivated to listen to specific information; they may perceive the information as being irrelevant to them.

What is selective exposure? Selective exposure is when a patient does not receive certain information that is intended for him, because of the situation he is in.

4.10.2 Model of Behavior Change: Changing the Social–Cognitive Determinant Attitudes

Model of behavior change: changing the social–cognitive determinant attitudes.

Changing attitudes, evaluating advantages and disadvantages, in both the long term and the short term.

Critical presentation of the desired behavior, outcome expectations.

Obstacles: too much information, health considerations, relationship between attitude and behavior and central and peripheral information processing.

→ Improving the patient's self-management.

The next step in the model of behavior change, is changing the social–cognitive determinant attitude. For the step involving changing attitudes, it is necessary for the patient to make a critical presentation of the desired behavior and evaluate the behavior in terms of advantages and disadvantages, in both the long term and the short term. Factors that play a role are a realistic view of the reality and choosing a reward. For attitudinal change, we use the decisional balance method, conceptualized in intervention mapping step 3. A change in attitudes may be the result if the advantages outweigh the disadvantages that a patient connects to a certain behavior (Fig. 4.17). Each patient should state what for him personally the advantages and disadvantages are, both described in the long term and in the short term. The patient makes an overview of the advantages, in the short term and in the long term, and puts these in the matrix; the patient makes an overview of the disadvantages, also in the short and long-term. The matrix then shows how advantages and disadvantages relate to each other and a decisional balance is created. The matrix should be used to talk with the patient about his outcome expectations. The personal benefits in the short term should outweigh the individual disadvantages in the short term. Is the patient willing to change his (unhealthy) behavior?

	Short term	*Long term*
Advantages of the desired behavior	!	
Disadvantages of the desired behavior		

Fig. 4.17 Matrix advantages and disadvantages of the desired behavior

Is there knowledge in attitudes? Part of the attitude is the knowledge that the patient has about the health problem. A patient always has (correct or incorrect) ideas about the consequences of certain behavior. For example, being physically active results in wear and tear on my joints. In addition, the patient often has an affective regard. For example, I find movement unpleasant or I find sweating unpleasant. As a nursing professional, you should join in this knowledge and affective sensations of the patient when you are balancing the pros and cons and trying to influence the decisional balance. To change the attitude of a patient, the patient should make a critical presentation of the desired behavior. The patient should have a realistic picture of the negative sides of the behavioral change. Nursing professionals often do not want to disturb the patient too much and downplay the disadvantages of the behavior change. However, to make a realistic decisional balance, the patient must also consider the disadvantages. Because when the patient starts to implement the behavior change, he encounters not only the advantages of the behavior change. Thus, it is better for a patient to be well informed. Your intervention can only be effective if the desired behavior is a reward for the patient.

How can nursing professionals change attitudes? Attitudes can be changed by giving attention to the specific advantages and disadvantages. You try to influence the balance between advantages and disadvantages in a favorable direction, by strengthening existing correct assumptions about pros and cons. For example, the patient recalls the advantage that physical activity outdoors will do him good; the nursing professional reinforces this by saying that many of her patients do indeed perceive moving outdoors as pleasant. You strengthen the balance sheet in a favorable direction, by correcting erroneous assumptions about the pros and cons. For example, the patient recalls the disadvantage that eating healthily is more expensive; the nursing professional gives examples showing that this does not have to be so and invites the patient to give an example. You can also strengthen the balance sheet by providing information about "new" benefits. For example, you say you often hear from other patients that more exercise promotes a good night's sleep, and you ask the patient if he has any suggestions, or you ask if the patient has had this experience. The balance can also be enhanced by influencing the extent to which disadvantages are disadvantages, and that advantages are advantages. For example, the patient recalls the disadvantage that being more physically active and moving several times a week takes up a lot of time; you invite the patient to think about whether this time can be viewed more positively, for example, as a time to relax or as a time to contact others. Finally, it is important for attitude change that the content of your message does not deviate too much from the views of the patient (group). If the content is significantly different from the prevailing view, then there is a chance that your health intervention will not be successful. There should therefore be no discrepancy between the attitude of the patient and your information, because otherwise there is a good chance that the message will not be accepted (Schaalma et al. 2001a, b). According to Brug et al. (2001), the persuasive impact of the information takes you further if your message is in line with the age, values, and standards of the patient. The persuasive impact

as a nursing professional further improves if your arguments are new to the patient and are an revelation. For example, moving more intensively promotes sleep, or decreases feelings of worry, stress, and even depressive symptoms. Your powers of persuasion also increase if you have a clear, causal connecting argument with the health problem. Nursing professionals are more convincing if they indicate based on evidence the relationship between the health problem and lifestyle and behavior. For example, research shows that more intensive exercise has a beneficial effect on the main cardiovascular risk factors (Sassen et al. 2009). Your powers of persuasion as a nursing professional also increase if the arguments are about the positive results of the desired behavior and refer to important, relevant outcomes. For this, it is important for the nursing professional to search, together with the patient, for what would be a positive and important yield of the desired behavior change.

What are the obstacles to changing attitudes? Nursing professionals often make the mistake of providing too much information on a reported problem. They focus on expanding the patient's knowledge, but knowledge leads only in exceptional cases to behavior change. Knowledge can best be considered the basis for a possible change in behavior and is insufficient on its own (Damoiseaux 1991). Knowledge transfer is often a first step, but more is needed to change behavior. Knowledge transfer can make the patient aware of the need for behavior change (Schaalma et al. 2001b).

Another obstacle is that nursing professionals think that health considerations are most important for patients, but this is often not the case. Factors that play a more frequent role are social or economic considerations. An example of a social consideration is: "it is impossible for me at Friday's lunch time with my colleaques not to take a snack". An example of an economic consideration is, "the price of dietary products/healthy food is really too high for me." It is important for the considerations that are important to the patient to be known and used as input for further communication.

Another obstacle may be the relationship between attitude and behavior. When a patient changes his attitude in a certain direction, he may feel less forced to change his behavior too. Sometimes a patient who changes his behavior does not change his attitude. This is a complex problem; thus, it is important to work with the patient on individual considerations to figure them out.

Finally, an obstacle is that patients vary widely in their propensity to think about the messages of health professionals. Some patients treat messages more seriously than other patients, and think about what they mean to them. Other patients pay more attention to the person who gives the information: is the nursing professional a specialist in the field, is she nice, or does she seem to be in a hurry? As patients think more about the message, we see more stable changes in attitude, social influence, self-efficacy, and/or behavior change. We call this central information processing (Petty and Cacioppo 1986). Central information processing is preferred for nursing professionals. People who pay more attention on other issues than the message, need another approach to reach your goal; it is often helpfull if you invest in the relationship with the patient first (Petty and Cacioppo 1986).

- In children with amblyopia, the usual treatment is to have one eye taped up, alternating between the two eyes. Physical, emotional, and visual discomfort define how children experience their vision problems, with implications for their attitude to having to wear patches. The use of the patch is not painful, but uncomfortable. Especially when the masking has only just started and the sight in the eye has not yet improved, the world looks "cloudy" to the child. Other children may bully the child for wearing the patch.
- Moderately obese people who should lose weight by changing their dietary habits combined with more physical activity, may fear heart problems and an increased heart rate at physical activity, and this has a detrimental influence on the attitude.

4.10.3 Model of Behavior Change: Changing the Social–Cognitive Determinants Subjective Norms and Social Influence

Model of behavior change: changing *the social–cognitive determinants* subjective norms and social influence.

Making the social influence visible.
Handling the pressure from others.
Improving self-management:

- Exercise increasing resilience;
- Extend social support behavior;
- Extend repertoire.

→ Improving the patient's self-management.

The next step in the model of behavior change is changing the social–cognitive determinants subjective norms and social influence. For the next step, it is necessary to deal with the subjective norms and the social influence so that the patient learns to cope with the pressure that others around him put on him. The patient is resilient to the social influences, and extends his behavior repertoire, which is a good starting point for nursing professionals. The patient should feel supported in performing the desired behavior and not be held back by negative influences. When talking about dealing with subjective norms and handling the social influence, this is based on the method of resistance to social pressure and mobilizing others for social support.

How does the patient handle social support? The social influence can be affected in a number of ways (Schaalma et al. 2001a, b). Learning to cope with the negative social influence starts with making the expectations of the social environment visible. The nursing professional may invite the patient to explore the opinion of the people around him about the desired behavior. The patient only considers the opinion of those people around the patient who are important to him with regard to the desired behavior. These important persons around the patient who may influence the intention and behavior of the patient are called significant others. This view of significant others can put a negative pressure on the patient to display the desired health behavior, or have a positive influence on the desired health behavior. By affecting the motivation to comply, a patient can learn to cope with the unwanted social influence and conform less or even no longer conform at all to the social influence. The patient may also learn the behavior (in part) to hide or run in such a way that the environment does not pay attention. In addition to learning to deal with social pressure, searching for social support is effective (Prochaska et al. 1997).

In the case of health behavior, is the social influence important for a person? The social influence is important for many behaviors, and in the case of health behavior: "especially when we are uncertain about our own beliefs, we tend to compare them with the views of others. A condition for this is that we identify to some extent with those other people." (Schaalma et al. 2001a, b)

Is social support complicated for a patient? Social support is complicated. Men need more social support than women, and men also receive more social support and they receive this social support in particular from their wives. Women receive less social support than men. Women receive social support more frequently from friends and family. However, even if patients do receive social support, this may not have a positive effect on self-management. If patients are satisfied with the social support they get, we see that this has a positive effect on the self-management of diabetes in women, but this is not true for men. Women seek support outside the immediate family circle to arrive at positive changes in the self-management of diabetes. Men seek support from their spouse, but less commonly make behavioral changes, even though these changes are needed for health. Thus, for obese men with diabetes type 2, the influence of his wife may be negative when it comes to maintaining weight loss.

- For adults with diabetes type 1, **social support** is important to maintain the desired behavior. In particular, social support regarding supporting self-management has a significant impact.
- For children who stutter, it is necessary to teach them **social skills**, such as making eye contact, and this is effective. This provides a good basis to effectively communicate with others and it improves their speech.

4.10.4 Model of Behavior Change: Changing the Social–Cognitive Determinants Perceived Behavioral Control and Self-Efficacy

Model of behavior change: changing social–cognitive determinants – improving perceived behavioral control and self-efficacy.

Appraisal of the possibilities of improving the desired (health) behavior under specific circumstances, to improve self-management.

Perform the skills needed to (1) conduct the (health) behavior, and (2) to sustain it.

- Enactive mastery experiences;
- Vicarious experiences;
- Verbal persuasion;

Physiological and affective states.
→ Improving the patient's self-management.

The next step in the model of behavior change, is changing the social–cognitive determinants perceived behavioral control and self-efficacy. To be able to perform the desired behavior change, it is important for the patient to learn the necessary practical skills and that the self-efficacy or the control over the behavior is adequate. The self-efficacy is the appraisal of the patient himself that he is able to perform certain behavior under specific conditions. The perceived behavioral control and self-efficacy is an important predictor of (health) behavior, both in the short and in the long term. A high degree of perceived behavioral control and self-efficacy is also necessary to sustain the (health) behavior change.

How to improve perceived behavioral control and self-efficacy? There are four sources to distinguish that have an influence on the perceived behavioral control and self-efficacy (Bandura 1997). The main influences on the perceived behavior control or self-efficacy are individual and similar experiences in the (recent) past with the behavior. For a patient, this is the most important indicator of whether he has mastered the skills. We call these experiences with skills and specific behavior enactive mastery experiences.

The second source of influence on the perceived behavioral control and self-efficacy, is observing others. The patient observes the skills and the behavior of others, and decides if he himself may or may not be able to do the same. We call these vicarious experiences.

The third source of influence is verbal persuasion. The patient is prompted by others to exhibit the skills or the (health) behavior. The patient exhibits this behavior only when he has tried out the behavior and if the behavior is endorsed. We call this source of influence on the perceived behavioral control and self-efficacy verbal persuasion.

A final source of influence on the perceived behavioral control and self-efficacy is the "status" of the patient. The patient is in a physical or emotional condition in which he feels he has the ability to perform the desired behavior. We call this source of influence on the perceived behavioral control and self-efficacy physiological and affective states.

The perceived behavioral control and self-efficacy is thus mostly based on past experiences with that or similar behavior. An increase in perceived behavioral control and self-efficacy is mainly achieved by practicing the (mostly practical) skills that are lacking. The patient may need to learn the necessary skills and learn to deal with problems that may arise while performing the skills or behavior. One strategy is that nursing professionals can commit to increasing the perceived behavioral control and self-efficacy, by dividing the complex task that must be taught into a number of parts that are easier to handle. This requires a good understanding of the intended behavior and developing skills. The skills are then taught in a logical order. Initially, the patient must be convinced that certain skills will be helpful when dealing with the health problem. For example, the patient should be (1) convinced that specific skills can help him deal with his depression; then, the nursing professional teaches the patient (2) how he can master these skills. Another example is that the patient should be convinced that the use of the insulin pump or other medications following day schedules helps him to handle his chronic health problem, and the patient should learn to master the needed skills. To increase perceived behavioral control and self-efficacy, after these two steps, the patient should (3) believe that he himself is able to perform the skills: "I think I can…" The confidence of a person that he is able to perform behavior is closely linked to the actual ability to perform the behavior. For example, the patient has confidence in his own skills to handle the insulin pump in different situations, to handle his medication schedule during weekends and holidays. As a final step (4). the patient ascribes the effect to the skill. Following all four steps, perceived behavioral control and self-efficacy will be sufficient to implement the behavior.

The theory regarding experiencing perceived behavioral control and self-efficacy is closely linked to confidence in the ability to be able to undertake a specific (health) behavior. If the patient thinks that he is not able to implement the desired behavior or even that it has no impact on his health, this will decrease his motivation to comply with the recommendations. The perceived behavioral control and self-efficacy experienced in the past, has a direct impact on the implementation of behavior in the present. Making patients aware in what situations certain skills are necessary, increases perceived behavioral control and self-efficacy. The perceived behavioral control and self-efficacy have a relationship with feeling in control in the long term as well.

What obstacles can hinder optimizing perceived behavioral control and self-efficacy? Patients who have already performed the behavior have often developed a sense of control over that behavior. These patients will have experienced a high degree of control, meaning that they have experienced high levels of perceived behavioral control and self-efficacy. An obstacle to increasing the perceived

behavioral control and self-efficacy may be that the skills needed are very complex. For example, a patient with physical disability or Parkinsonism should learn scope and grab movements if they have reduced hand function, reduced power, and stronger reflexes. An obstacle may also be that skills are painful or time-consuming. For example, for patients with low back pain or rheumatic complaints, moving can be painful. Another obstacle might be that the patient overrates his abilities. For example, the patient thinks that because of his movement behavior in the past, he will be able to pick it up again at the same pace.

- The **perceived-behavioral control and self-efficacy** of the movement behavior of adults is to a large extent predicted by the movement behavior that people have shown in the past (Godin 1993). The perceived behavioral control or self-efficacy of the movement behavior of older people is affected by the (perception of) physical capacity.
- For adults with type 1 diabetes, the **perceived behavioral control and self-efficacy** implies being self-responsible for determining and controlling blood sugar levels, and for the desired nutrition and movement behavior. The self-efficacy and confidence in their own capacity in relation to the desired diabetes self-care is most important in improving self-management.

4.10.5 Model of Behavior Change: Achieving Changes in (Health) Behavior

Model of behavior change: achieving changes in (health) behavior
Planning the behavior change.
Important step to improving self-management.
Implementation intentions, action plan:

– Positive feedback;
– Ensure that goals remain challenging and achievable.

Behavior change versus habits and forgetting.
→ Improving the patient's self-management.

The next step in the model of behavior change is guiding the patient to achieve a change in (health) behavior. To achieve a change in (health) behavior, the patient should have a plan as to how he is going to change his behavior. This planning of the behavior change is an important step in the model of behavior change to improve self-management. The method of action planning is directed at improving control over the (health) behavior, and nursing professionals should use this method of action planning when social–cognitive determinants are changed in a positive

direction. This means that nursing professionals only start using action planning when attitudes are positive, with a clear view of the negative aspects of changing the behavior; when the person is able to handle subjective norms and more negative social influences, and is able to seek support; and, at last, the person has shown the skills needed and that he can implement these in various circumstances. The patient feels supported by the nursing professional in changing his behavior if he receives positive feedback and if the goals are challenging but achievable.

How to change behavior, specifying when/where/and how, and use action planning? Making a plan and using action planning initiates changes in the intention of the patient. With a change in intention, the planning of the patient to behave differently, more healthily, and to start acting is an important step in the direction of the desired (health) behavior.

The patient makes an action plan and specifies when, where, and how he will carry out the desired behavior. These are called the implementation intentions (Gollwitzer and Schaal 1998). Implementation intentions can be seen as the goals specified by the patient in his plan. By making a specific plan as to how to put a positive intention into specific behavior, it is more likely that the patient will achieve these implementation intentions effectively and will start to perform the desired behavior (Achtziger et al. 2008).

Do people want to change? Patients often want to behave differently, but do not always know how to do it. Making the patient think in advance about how he can handle a situation increases the chance for the implementation of the desired behavior. We call this mentally simulating the implementation intention (de Vries 2000). As a nursing professional, you ask during the consultation how the patient is going to perform the desired behavior at home. The patient presents himself mentally to the home situation and considers how to perform the behavior in that situation. The patient remembers how to perform it when he is at home, and performs the desired behavior earlier.

What is needed to change? Feedback? The (gradual) transition of the positive intention into behavior change can be promoted by the nursing professional giving positive feedback. Feedback should be stimulating and constructive for the patient, so that he continues the desired behavior change. Feedback and rewards are effective in bringing about changes in social–cognitive determinants and behavior (Bandura 1986). Feedback gives the patient an insight into the extent to which he has managed to learn and/or change, or into the extent to which changes are effective. Feedback also makes the patient aware of the health effects of the behavior. In addition to giving feedback, it is important that the goals or implementation intentions described by the patient in his action plan are challenging, but definitely attainable. The performance required should be a challenge for the patient, but always should be within his abilities.

What can be breaking points in changing behavior? Habits and forgetting are important breaking points when a person is trying to implement the behavior change. Breaking habits and preventing the patient from forgetting the desired behavior is not easy. Because: "they forget to perform the behavior that is a fixed part in a behavior pattern, or that is part of a habit" (Schaalma et al. 2001a, b). A way of changing habits and forgetting is (temporarily) to reward the desired (health) behavior.

Rewards can support a change in behavior. Nursing professionals should explore the possibilities of what can be rewarding for the patient or how the patient can reward himself when he is implementing the behavior change for a certain, specific period. Rewards might be that nudge in the back that is necessary to break the habit. Another way of change habits and forgetting is to invite the patient to think about specific actions that could cause his good intention to perform the behavior in practice. For example, the patient always remembers that, before his first cup of coffee of the day, he should take his antipsychotic medication. This is a concretization of the implementation intention in the action plan. A third way of change habits and forgetting is immediate feedback on the behavior. This allows the patient's behavior to be less quickly forgotten. A fourth way of changing habits and remembering to change your behavior is for the patient to apply reminders to create awareness of the habitual behavior. Reminders might be sticky notes on the refrigerator, on the TV remote control, or on the computer for patients who should move more. The last way of changing habits and forgetting is to join a major change initiative. For example, a recently diagnosed health problem whereby habits are already broken (Schaalma et al. 2001a, b).

4.10.6 Model of Behavior Change: Sustaining Changes in (Health) Behavior

Model of behavior change: sustaining changes in (health) behavior.
Recognize high-risk situations.
Handle high-risk situations.
Coping planning.
Relapse prevention, ring-back moments.
→ Improving the patient's self-management.

To sustain changes in (health) behavior, to create stabilization of the behavioral change, and to maintain the change in the long term, the patient should recognize and learn to cope with high-risk situations. The last step in the model of behavior change is sustaining changes in (health) behavior. This can include the continuation of the behavior change or holding on to the behavior change for as long as necessary. The patient should learn the appropriate coping response to handle difficult situations; thus. a nursing professional can connect with him at the method of coping planning. Almost every patient who is performing the behavioral change comes up against high-risk situations or barriers. The high-risk situations require a focused coping response. If a patient thinks of the coping response for the high-risk situations himself, he will remember the response more easily and get more of a grip on the process of behavioral change. If the patient explicitly formulates a plan for the main high-risk situations, it is more likely that he is going to perform the desired behavior. Coping with this plan seeks to prevent a relapse back to the old, unwanted

behavior (Marlat and Gordon 1985). In using coping planning, the nursing professional teaches patients to handle relapse, and in particular, nursing professionals prepare patients that they probably will relapse, but that coping planning is about how to handle these relapses. When people are prepared for a relapse to be part of the behavior change process, and that most people encounter them, it is easier to understand and cope with high-risk situations and barriers.

Relapse happens to almost every patient as a result of negative experiences with the new, desired (health) behavior. Relapse is even inherent to behavioral change (Alewijnse et al. 2002). Relapse can be an obstacle when working on behavioral change. Decline in skills and behavior must above all be seen as a learning moment by the patient. Relapse is not a failure, and certainly not the final failure.

The patient's coping plan gives a view of the high-risk situations and the associated personal coping response. The desired behavior can also be stimulated by certain cues to action that make the patient remember (at the right time and in the right place) to perform the desired skills (again) or to perform the desired behavior (again). With these cues to action the aim is to prevent a relapse, or restart.

For a patient, changing behavior is a difficult process, and behavior change is rarely immediate behavior change. As a nursing professional, you accompany the patient until behavior preservation. You can coach the patient toward behavior preservation by paying particular attention to dealing with high-risk situations and preparing for (bypassing) relapse. Offering repeat moments is part of the coaching process. It may be desirable for the patient to continue certain behavior lifelong. Offering ring-back moments until the patient shows stabilization of the behavioral change, preserving the behavior, improves the self-management of the patient. If a patient shows the desired behavior over a longer period, and shows that it has been built-in into his lifestyle, then the nursing professional can gradually stop the coaching. To support the self-management of patients with chronic health problems, continuation of the coaching is often necessary.

- In a systematic review of the RCTS on the **effectiveness of self-management intervention** for patients with type 2 diabetes, it was found that the intervention had a positive effect on knowledge, on the frequency and accuracy of self-monitoring, on the patient's own reported dietary habits and blood levels, after 6 months. Interventions aimed at cooperation are more effective than information interventions (Norris et al. 2001).
- More than 70% of patients who **stutter** have a **relapse after intervention**. Relapse is related to the severity of stuttering. The most severe stutterers have the greatest chance of relapse. They also often lapse back into social avoidance behavior and avoiding words that were previously used. Relapse means stutter symptoms recurring after a period of improvement of the stuttering behavior. There are alternating periods of stuttering and nonstuttering behavior. The patient always regains fluent speech after a relapse, which occurs on average three times a year (Hancock and Craig 1998).

4.11 Intervention Mapping Step 4: Designing the Health-Intervention – Stages of Change

Stages of change or transtheoretical model.
Motivational stages, if a patient wants to change his intention and behavior.
Precontemplation, consider no behavioral change.
Contemplation, consider behavioral change, in the long term.
Preparation, consider behavioral change, in the short term.
Action, start the behavioral change.
Consolidation, behavioral change continued for quite some time.

The transtheoretical model of the stages of change concept, describes patients going through a number of motivational stages if they want to change their intention and (health) behavior (Prochaska et al. 1997; De Vries and Backbier 1995). It reveals that patients are at various stages of behavioral change at the start of a health intervention. The transtheoretical model originates from the corner of psychotherapy. The stages are: not intending to change behavior, changing the behavior, and ends with consolidation of the behavior change. The group of patients who at the start of the contact or intervention with the nursing professional is willing to change is small. In the model, it is essential to determine the willingness of the patient to change. This is called the readiness for change (Blanchard et al. 2003). Patients are at different stages with regard to adopting self-management strategies (Prochaska et al. 1997). The stages-of-change concept reveals how a health intervention can be tailored to the patient's stage of behavior change. Also, the relevance of the provision of health education intervention for the specific target group is in the stages-of change concept. Although the model is developed as a model to change health behavior, it is rather a way of looking at people in different subgroups when entering a health intervention.

What if a patient is in a pre-contemplation stage? In the first stage of the transtheoretical model, precontemplation, the patient does not consider any behavioral change and this is also not to be expected in the near future. The patient is not aware of the health problem, or underestimates the health problem. Many patients are not aware of their own risky behavior and experience no need to change that behavior. Alone, the patient will not come to the understanding that behavior change is desirable. The patient is not aware of the need, does not have the will, or became rather discouraged when attempting to change the behavior, nor is the patient convinced that there are positive aspects of behavior change and that these may outweigh the negative aspects (Basler 1995). Precontemplators should first be aware that there is a link between their own behavior and their health risk. Second, they should acknowledge that the risky behavior takes place in the group of people to which they themselves belong. Third, these patients need to be aware that they themselves are undertaking the risky behavior. Risk perception plays an important role in the precontemplation stage. Many health behaviors consist of several complex activities,

spread over a day. This makes judging one's own risky behavior difficult. As a nursing professional, you would set in motion the process of awareness in the patient. You discuss with the patient the influence of the behavior on the health problem, you discuss the perceived risk, and talk with the patient about whether he is aware that he is in a risky health situation.

What if a patient is at the contemplation stage? If the patient is aware of his own risky behavior, he moves from the stage of precontemplation to the phase of contemplation. At the second motivational stage, contemplation, the patient is aware that he has a health problem. He reflects on behavioral change, but does so without making a decision. This stage is strongly related to attitude change. The patient knows that behavior change is desired, but is still not ready to decide. He ponders the pros and cons of behavioral change. The patient wonders if the advantages of the behavioral change outweigh the effort he should make and the energy that it costs. The patient is considering a long-term behavior change. The way in which the patient in the contemplation stage treats his health problem may be because, as in the precontemplation phase, he experiences little inconvenience. Contemplators ponder the pros and cons of behavioral change, but for the near future the willingness to change behavior is lacking.

As a nursing professional, you should start the process of reaching a decision, support the patient, of helping to look at the pros and cons of a behavior change. At the beginning of this stage, the advantages of the problematic behavior are mostly in the foreground and the disadvantages are fairly insignificant. During this stage, the disadvantages become more important, and when the patient is ready for preparation, the benefits exceed the drawbacks. To increase motivation, you can as a nursing professional use the technique of self-monitoring and self-re-evaluation. In the method of self-monitoring, the patient keeps a notebook in which he describes important symptoms, making the patient more aware of his symptoms and the frequency with which they appear. In the method of self-re-evaluation, the patient is asked to write down the pros and cons of not learning the behavior that is desired with regard to self-management. The patient may finally take a clear decision to proceed to action (Basler 1995).

> ▶ At the **contemplation stage**, patients with diabetes experienced a lot of **social support.** This contrasts with patients in the **action stage** who have experienced **less social support**. A possible explanation for this might be that giving social support is relatively easy, as patients at the contemplation stage are "only" thinking about starting the behavior (Vallis et al. 2003).

What if a patient is at the preparation stage? At the third stage of the transtheoretical model, preparation, the patient considers a behavioral change in the short term. The patient has the intention, and is really going to take action to change his behavior. The patient realizes that a behavioral change is necessary and considers the behavior change in the short term. The patient should develop strategies at this stage, if making a behavioral change is within his possibilities (Falvo 2004). The

patient tries the behavioral change, but does not yet have all the necessary (social and practical) skills. The intention to change requires learning to deal with the subjective norms and social influence from the important people around the patient, and also requires improving perceived behavioral control and self-efficacy by learning the required skills to implement the behavior. Only then will the patient be able to take the decision to really change his behavior. Preparators should learn the steps of the social and practical skills needed. Setting a date to start with the behavioral change can help the patient (Keefe et al. 2000).

As a nursing professional, you can support the process to decision-making by the patient, to reflect on the behavior change, and support the patient if he actually starts certain (part) changes of the behavior. To be able to make the transition from preparation to action, it is important to discuss the positive and negative consequences and expectations concerning the result with the patient. In the transtheoretical model these are called the outcome expectations. You can figure out these outcome expectations, using the decisional balance method by applying the advantages–disadvantages matrix (Fig. 4.17). During the preparation stage, the patient should obtain the confidence from the fact that he is capable of changing, that he can master the necessary practical skills, and that he is able to handle the influences that he suffers from the social environment. It is striking that the patient at this stage more often experiences symptoms that are related to the health problem. The precontemplation, contemplation, and preparation stages are called the pre-action stages (Ronda et al. 2001).

> ▶ In the **transition from preparation to the action stage**, it is shown that patients with diabetes achieve healthier eating habits. The number of calories decreases and the number of servings of vegetables and fruit distributed throughout the day increases (Vallis et al. 2003).

What if a patient is at the action stage? At the fourth motivational stage of the transtheoretical model, action, the patient changes his behavior. The actual behavioral change takes place and the patient starts working on his health problem. The action stage requires the clear commitment, time, and energy of the patient. The core of the action stage is that the patient clearly attempts to behave differently, in a healthier way. The patient should break habits and patterns around the unwanted behavior and need to find ways to increase control over the behavior change. At the action stage, the patient usually has greater perceived behavior control and self-efficacy, and focuses especially on behavior control. To maintain the action stage, it is important for the patient to develop and learn strategies to promote self-management (Basler 1995; Keefe et al. 2000). These strategies consist of drawing up an action plan for self-management, specifically to describe viable, challenging (sub) goals.

The nursing professional motivates the patient to his action plan. the patient needs to seek out alternatives for the things he has specified. For example, searching for alternatives to fatty food. This is called conditioning or opposite counterconditioning. The patient needs to be supported in the control of the stimulus that turns

him on to the unwanted behavior, stimulus control. The patient would need to be motivated to reward themselves if the desired behavior is performed. Also, the patient would need to be coached in searching for supportive social relations, to support behavioral change. It helps the patient if you let him experience that by achieving the short-term aims in the action plan, long-term goals come closer and are more feasible (Falvo 2004). The nursing professional continues the coaching until the patient performs the desired behavior for at least 6 months.

What if a patient is at the consolidation stage? At the fifth motivational stage of the transtheoretical model, consolidation, the patient has changed his behavior and it is a matter of the patient continuing his desired behavior for as long as is necessary. Characteristic of the consolidation stage is continuing and stabilizing the behavior change and avoiding or dealing with relapse. It is at this stage that conservation is conducted and learning to deal with falling back into the unwanted behavior, or relapse. Relapse prevention is a key strategy for preventing fall-back or learning to cope with relapse. Relapse happens to almost every patient who changes their (health) behavior. The tricky thing about relapse is that it often gives the patient a sense of failure, of shame, and of guilt. These feelings are annoying for the patient and make him fall back into undertaking the unwanted behavior. If the patient relapses, he falls back into a previous motivational stage that seemed to be closed, for example, the precontemplation stage, but more often a relapse occurs at the stage of contemplation or preparation. Most patients learn – eventually – from their relapse experiences. At this stage of behavioral consolidation and relapse is to consolidate the desired behavior and incorporate the new behavior into the patient's lifestyle, the consolidation stage.

As a nursing professional, it is important to offer support to the patient, to encourage him to ratify the behavioral change and to sustain it. If you offer the patient continuously targeted feedback on the progress he has made, this can endorse the changed behavior (Falvo 2004). Also, you should coach the patient in searching for strategies to avoid relapsing into the old, unwanted behavior. These strategies to search for barriers and to avoid relapse, should be described in the coping plan of the patient. The patient should make a coping plan in consultation with the nursing professional stating his own solutions to handle high-risk situations. In the consolidation stage, the patient has almost reached a stage of behavior control and self-management with regard to the problematic, unwanted behavior. The consolidation stage can give the patient the desire to fall back into the undesirable behavior, especially if the environment provides incentives to the unwanted conduct. The consolidation stage ends when this temptation is extinguished and preservation of the behavior is seen. The consolidation stage ends when a maximum amount of confidence exists that the patient is able to handle relapse. The nursing professional continues the coaching until the patient has performed the desired behavior for at least 12 months.

- For patients with type 1 diabetes at the **action and consolidation stages**, it was shown that they had the lowest percentage of calories from fats in the diet and had the highest number of servings of vegetables. Patients at the consolidation stage rate their quality of life higher,

compared with patients in the action stage. That patients' quality of life in the action phase was less well judged may be because this stage is a transition stage that interferes with the quality of life (Vallis et al. 2003).

- **"5-a-day for better health."** The intervention "5-a-day for better health" had the purpose of motivating people to eat fruit or vegetables five times a day. At the end of the implementation of the intervention, about 20% of the people were at the stage of precontemplation. At this stage, there were more often men than women, and the group turned out to be more often uncertain whether they could perform the desired behavior. About 5% of the people were at the stage of contemplation, more frequently younger people. at the stage of preparation this was around 55%, likewise more frequently younger people. At the action stage it was approximately 5%, more often women, people with a higher level of education, and people who already had healthy eating habits. People at the action stage had more knowledge and were more often convinced that they would be able to carry out the desired behavior. Finally, 15% were at the consolidation stage; these were usually women and highly educated people, who had healthy eating habits and more knowledge about healthy eating.

4.12 Intervention Mapping Step 5: Implementation Plan

After designing the health intervention in step 4 of intervention mapping, you start developing a plan that states how you are going to implement the health intervention. At the start of intervention mapping, you have talked to those who are going to carry out the provision of the health intervention. Based on that information and the important findings in the previous steps, in step 5 of intervention mapping, you write an implementatie plan in which you indicate how the provision of health intervention should be carried out by nursing professionals and/or other health professionals. In the implementation plan you also describe how the spread of health intervention planning can be performed. From the beginning of the implementation of the intervention mapping protocol you need to anticipate the implementation of the provision of health intervention (Fig. 4.18).

What is needed to write an implementation plan? In step 5 of intervention mapping, your deployment goals to be included in the implementation plan are to be described: what exactly do we want those who implement the health intervention to do? Are they motivated to use and to start to implement the health intervention? Where in the care process should the provision of the health intervention start and

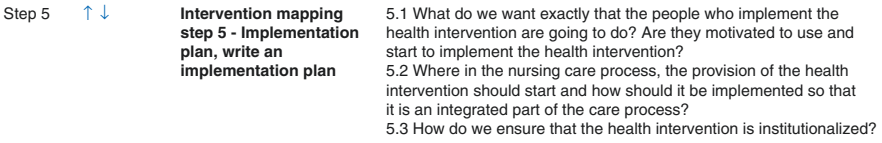

Fig. 4.18 Intervention mapping step 5: write an implementation plan

how should it be implemented to be integrated into the care process? How do we ensure that the provision of health intervention in the care process is institutionalized? The product of the intervention goals and its development constitute the implementation plan. In the implementation plan, it is described how, when, and what should happen to increase the chances of success of the intervention design.

What makes implementation of an intervention complex? For this, we are going to have a look at the complexity of communication and processes in communication. When implementing the provision of a health intervention, there is a process of communication between the patient and the nursing professional. In intervention mapping step 4, you have developed the intervention for the patient. The implementation is focused on those who carry out the intervention. In this chapter, we assume that those who carry out the intervention are nursing professionals. When the implementation of the provision of health intervention is in the hands of nursing professionals, the effectiveness of the intervention depends on two factors. First, the effectiveness of the intervention depends on how well the patient is able to change his health behavior and sustain the behavioral change. Second, the effectiveness of the intervention depends on how well the nursing professional is able to carry out the provision of health intervention. Nursing professionals are the link in promoting the self-management of the patient. A condition is that nursing professionals: do not skip parts of the intervention; make no self-made adjustments to the intervention; and do not start the intervention without making follow-up steps. The effectiveness of the intervention and whether the patient really is able to improve his self-management, depends to a large extent on the skills of nursing professionals.

What do we know about the communication process? The communication process consists of the following sub-processes: who (this is the source, the nursing professional), says what (the health education message), through which educational strategy, how (channel, the method), against whom (this is the receiver, the patient), regarding what (purpose). Each part affects the effect and possible success of the communication process. The effectiveness of your health intervention increases when you take this communication process into account (Fig. 4.19).

What about the source, the nursing professional? The source is the nursing professional who conveys the health education message to the patient (group). The source must have the right knowledge and skills, but should show expertise, credibility, should be appealing, and show that they have power (Daimoiseaux 1991). The credibility and expertise are greater if the source is seen to be an expert in the

	Source	*Message*	*Strategy*	*Recipient(s)*
Contact	Source, nursing professional	Message 1	Strategy 1	Recipient(s), patient
Changing behavior		Message 2	Strategy 2	
Sustaining behavior		Message 3	Strategy 3	

Fig. 4.19 Communication process, source message strategy recipient

relevant field and is considered to be objective toward the subject. The attractiveness of the source is greater if the nursing professional is, as far as possible, equal to the members of the patient (group). The source should also have a certain amount of control and power; the nursing professional should be able to give rewards or challenge the patient.

Which factors are important for the message? The education message is what the source, i.e., the nursing professional, sends as the health education message to the recipient, i.e., the patient. A health education message is aimed at increasing the patient's motivation. The health education message should always be individualized, specifically tailored to the needs and personality of the patient. The effectiveness of the education message is also influenced by the content and the structure of the message. The persuasiveness of nursing professionals is greatest if the content contains all arguments and explicit conclusions can be drawn. With an implicit message, it is much more difficult to achieve your goal and your health education message is less persuasive and effective. When a health education message contains one or more warnings addressed to the patient, this decreases the chances of a change in attitude or behavior change developing. The construction of the education message must be logical and structured, with explicit conclusions at the end of the message. The effectiveness of your education message increases when it is concise, succinct, and businesslike, and the patient is given no unnecessary ballast with too much detail.

What about the strategy? The educational strategy is the way in which the message "enters" the patient (group). The educational strategies in the provision of health intervention that can be used by nursing professionals are individual education, group education, or a combination of both strategies. Combining individual education with group education can be important, because people learn in different ways. Combining different ways promotes learning and makes the chance of success greater (Green and Kreuter 2005). The choice of a whether individual or group education is used is determined by the goals that are pursued. Individual education is the most common strategy for nursing professionals.

In individual education, there is a one-to-one relationship with the patient. Benefits include specially targeted harmonization and individualization, and the relevance of individual education to the patient may be very high, and feedback and reward can be directly tailored to the unique patient situation. Furthermore, facilitation is within easy reach when it comes to teaching (social or practical) skills. By using individual education, the quality of education may improve.

Group education is an obvious choice as practicing social skills are needed to achieve your goals. Group education can make you achieve your goals focusing on teaching social skills, such as dealing with social pressure or social support. Group education includes giving feedback and rewards, and facilitation is usually straightforward. However, if you want group education to be effective, individuation requires extra attention. Group education often places too much emphasis on information transfer; but, by increasing knowledge using information transfer, a change in intention or a behavioral change may not be achieved.

Which factors are important for the recipients? The recipient of the health education may be one patient or a group of patients with the same health problem or

	Source	*Message*	*Strategy*	*Recipient(s)*
Contact, risk perception	Source, nursing professional	Message 1	Indvidual communication	Recipient(s), patient
Changing social-cognitive determinant-attitude		Message 2	Indvidual communication	
Changing social-cognitive determinant-subjective norms and social influence		Message 3	Indvidual communication	
Changing social-cognitive determinant-perceived behavioral control and self-efficacy		Message 4	Indvidual communication	
Achieving changes in (health) behavior		Message 5	Indvidual communication and group	
Sustaining changes in (health) behavior		Message 6	Indvidual communication and group	

Fig. 4.20 Communication matrix

intermediaries who have close contact with the patient (group). Intermediaries may be, for example, nursing professionals, parents or teachers. Factors that play a role for recipients as part of the communication process are: the recipient as a participating partner; pace differences; and the time a patient need to think over the message. Nursing professionals should approach the patient as a participating partner. The patient will be more willing to cooperate in an effective relationship, if you approach the patient as a participatory, critical, and rational partner, who can give information from various angles and whose interests, expectations, and behavior are intertwined with social networks. Among patients, the recipients, there are differences in the pace of behavioral changes. But another aspect is time; time passes before there is awareness about the content of the information and it fully enters the patient's mind. One patient may be more receptive to a health education message than another patient.

The merging of the communication process with the health education model as described in the model of behavior change delivers the communication matrix (Fig. 4.20). This matrix reveals how communication and health education are combined in the provision of health intervention.

4.13 Intervention Mapping Step 6: Evaluation Plan

From the start of the intervention mapping protocol the evaluation of the provision of health intervention should be anticipated. In step 6 of intervention mapping, you should write an evaluation plan. The performance objectives and change objectives formulated in intervention mapping step 2, are included in addition to the possible

Step 6	↑ ↓	**Intervention mapping step 6 - Evaluation plan, write an evaluation plan**	The effectiveness of the health intervention is examined and also the effect on patients' health behavior. Is the patient really behaving healthier? Is the patient able to describe health benefits? Has quality of life increased? The evaluation should determine whether the implemented (behavior change) methods have led to the expected changes in the patient(group)

Fig. 4.21 Intervention mapping step 6: write an evaluation plan

goals aimed at changing exogenous environmental factors. In your evaluation plan, you describe how the health intervention is going to be evaluated. The process of evaluation is about whether the processes around the provision of health intervention have been effective or not. The impact of effect evaluation is concerned with the level at which effects are achieved. For example, at the level of a change in social–cognitive determinants; at the level of an actual change in behavior; or at the level of a long-term behavior change (Fig. 4.21). The last pitfall that requires attention is being satisfied with how a health intervention is carried out, whereas the health problem is not really reduced or the unwanted behavior is not really changed (Kok et al. 2001).

What is needed to write an evaluation plan? The purpose of evaluation is concretize the results. In the evaluation, objectives are set against the results, and the effects of the provision of the health intervention is looked at. With the assessment of the effect or impact, the effectiveness of the intervention and the effect of the health intervention on the patients' health behavior are examined. Is the patient really behaving in a healthier way? Is the patient able to describe the health benefits? Has the quality of life improved? The evaluation should be primarily aimed at determining whether the implemented (behavior change) methods have led to the expected changes in the patient (group).

The procedures that cause a particular effect or not may be uncovered in the evaluation process. In the evaluation process, the way in which processes expire when running the health intervention. What went well and is responsible for the success of the intervention? What turned out differently than planned and is possibly responsible for setbacks?

What questions should be included in an evaluation plan? Questions that provide a handle when evaluating an intervention can be viewed in clusters (Windsor 1980). The first cluster is about planning the provision of the health intervention. What changes in social–cognitive determinants and behavioral change should be measured? When should these be measured? What changes in social–cognitive determinants, intention, and behavior are specifically due to the implemented health intervention? The second cluster of questions provides insight into the effectiveness of the methods used and assistive technology. Were the methods used shown to be effective? Was the method suitable for creating a risk perception in the patients? Was the method of decisional balance used in the balance sheet format suitable for patients? Was the method of coping planning suitable for making a coping plan and did this plan turn out to be suitable for handling most high-risk situations? Were the chosen methods suitable to be carried out by nursing professionals? Were nursing professionals able to enter into a collaborative relationship with the patient? Were

nursing professionals able to apply the desired communication competencies, so that there could be an effective communication process with the patient? Were the extra tools that were used an addition to the methods used in the provision of the health intervention? The third cluster of questions shows the administrative aspects of the intervention. What costs are created when running the intervention?

Reasons for evaluation also include learning for the future and ethical considerations (Dijker et al. 2001). The evaluation can teach us what is and is not effective, and this gives a possible insight into how interventions can be made more effective. Ethical considerations for performing an evaluation, for example, are aimed at ensuring that patients are not unnecessarily harassed or that the provision of health intervention has no undesirable side effects.

References

van Achterberg T, Huisman-De Waal GGJ, Ketelaar NAMB, Oostendorp RA, Jacobs JE, Wollersheim HCH. How to promote healthy behaviors in patients? An overview of evidence for behavior change techniques. Health Promot Int. 2010;26(2):148–62.

Achtziger A, Gollwitzer PM, Sheeran P. Implementation intentions and shielding goal striving from unwanted thoughts and feelings. Pers Soc Psychol Bull. 2008;34(3):381–93.

Ajzen I. Attitudes, personality and behavior. Milton Keynes: Open University Press; 1988.

Ajzen I, Driver BL. Application of the theory of planned behavior to leisure choice. J Leis Res. 1992;24(3):207–24.

Alewijnse D, Mesters IE, Metsemakers JF, van den Borne BH. Program development for promoting adherence during and after exercise therapy for urinary incontinence. Patient Educ Couns. 2002;48(2):147–60.

Assema P, Glanz K, Kok G. Effects of health claims on eating habits of the Dutch population. Eur J Public Health. 1996;6:281–7.

Bandura A. Social foundations of thought and action. Englewood Cliffs, NJ: Prentice Hall; 1986.

Baranowski T, Cullen KW, Nicklas T, Thompson D, Baranowski J. Are current health behavior change models helpful in guiding prevention of weight gain efforts? Obes Res. 2003;11:23s–43s.

Bartholomew LK, Parcel GS, Kok G, Gottlieb NH. Intervention mapping. Designing theory- and evidence-based health promotion programs. Mountain View, CA: Mayfield Publishing Company; 2000.

Bartholomew LK, Parcel GS, Kok G, Gottlieb NH, Fernández ME. Planning health promotion programs: an intervention mapping approach. San Francisco, CA: Jossey; 2011.

Bartholomew EIK, Markham CM, Ruiter RAC, Fernandez ME, Kok G, Parcel GS. Planning health promotion programs, an intervention mapping approach. Hoboken NJ: Wiley; 2016.

Basler H. Patiënt education with reference to the process of behavior change. Patient Educ Couns. 1995;26:93–8.

Blanchard KA, Morgenstern J, Morgan TJ, Labouvie E, Bux DA. Motivational subtypes and continuous measures of readiness for change: concurrent en predictive validity. Psychol Addict Behav. 2003;17(1):56–65.

de Bourdeaudehuij I, Rzewnicki R. Determinanten van fysieke activiteit. Vlaams Tijdschrift voor Sportgeneeskunde en Sportwetenschappen. 2001;75–89.

de Bruin M, Viechtbauer W, Schaalma HP, Kok G, Abraham C, Hospers HJ. Standard care impact on effects of highly active antiretroviral therapy adherence interventions: a meta-analysis of randomized controlled trials. Arch Intern Med. 2010;170(3):240–50.

Brug J, Schaalma H, Kok G, Meertens RM, van der Molen HT. Gezondheidsvoorlichting en gedragsverandering. Een planmatige aanpak. Assen: Van Gorcum; 2001.

Coster S, Norman I. Cochrane reviews of educational and self-management interventions to guide nursing practice: a review. Int J Nurs Stud. 2009;46:508–28.
Damoiseaux, V. 'Gezondheidsvoorlichting (GVO) als modaliteit van preventie'. Damoiseaux, V., van der Molen, H.T. & Kok, G.J. Gezondheidsvoorlichting en gedragsverandering. Van Gorcum, Assen 1993.
Damoiseaux VMG. Listen, lusten en lasten van massamediale voorlichting. Maastricht: Van Gorcum; 1991.
Dijker A, van Dongen M, Brug J. Evaluatie van gezondheidsvoorlichting. In: Brug J, Schaalma H, Kok G, Meertens RM, van der Molen HT, editors. Gezondheidsvoorlichting en gedragsverandering. Een planmatige aanpak. Assen: Van Gorcum; 2001.
Doherty Y, Hall D, James PT, Roberts SH, Simpson J. Change counseling in diabetes: the development of a training programme for the diabetes team. Patient Educ Couns. 2000;40:263–78.
Falvo DR. Effective patient education. A Guide to increased compliance. Sudbury: Jones and Bartlett Publicers Inc.; 2004.
Fishbein M, Ajzen I. Belief, attitude, intention and behavior. Reading, MA: Addison-Wesley; 1975.
Fishbein M, Ajzen I. Predicting and changing behavior: the reasoned action approach. New York, NY: Psychology Press; 2010.
Godin G. The theories of reasoned action and planned behavior: overview of findings, emerging research problems and usefulness for exercise promotion. J Appl Sport Psychol. 1993;5:141–57.
Godin G, Bélanger-Gravel A, Amireault S, Gallani MC, Vohl MC, Pérusse L. Effect of implementation intentions to change behaviour: moderation by intention stability. Psychol Rep. 2010;106(1):147–59.
Godin G, Conner M. Intention-behavior relationship based on epidemiologic indices: an application to physical activity. Am J Health Promot. 2008;22(30):180–2.
Gollwitzer PM, Schaal B. Metacognition in action: the importance of implementation intentions. Pers Soc Psychol Rev. 1998;2(2):124–36.
Green LW, Kreuter MW. Health promotion planning. An educational and ecological approach. Boston, MA: McGraw-Hill; 2005.
Hancock K, Craig A. Predictors of stuttering relapse one year following treatment for children aged 9 to 14 years. J Fluency Disord. 1998;23:31–48.
Heinen MM, Bartholomew LK, van de Wensing M, Kerkhof P, van Achterberg T. Supporting adherence and healthy lifestyles in leg ulcer patients: systematic development of the Lively Legs program for dermatology outpatient clinics. Patient Educ Couns. 2006;61(2):279–91.
Jansen J, Schuit AJ, van der Lucht F. Tijd voor gezond gedrag. Bevordering van gezond gedrag bij specifieke groepen. RIVM rapport 270555004. Houten: Bohn Stafleu Van Loghum; 2002. p. 203–15.
Keefe FJ, Lefebvre JC, Kerns RD, Rosenberg R, Beaupre P, Prochaska J, et al. Understanding the adoption of arthritis self-management: stages of change profiles among arthritis patients. Pain. 2000;7(3):303–13.
Kok GJ. Gezondheidsmotivering: GVO als wetenschapsgebied. Gezondheid en Samenleving. 1986;7:58–68.
Kok GJ. Theorieën van verandering. In: Damoiseaux V, van der Molen HT, Kok GJ, editors. Gezondheidsvoorlichting en gedragsverandering. Assen: Van Gorcum; 1993.
Kok G, Bartolomew LK, Parcel GS, Gottlieb N, Schaalma H, van Empelen P. Intervention mapping; een protocol voor het ontwikkelen van op theorie en onderzoek gebaseerde gezondheidsvoorlichting. Tijdschr Soc Gezondheidsz. 2000;78(3):135–41.
Kok G, van den Borne B, Mullen PD. Effectiveness of health education and health promotion; meta-analyses of effects studies and determinant of effectiveness. Patient Educ Couns. 1997;30:19–27.
Kok G, Schaalma H, Brug J. Planmatige gezondheidsvoorlichting: een inleiding. In: Brug J, Schaalma H, Kok G, Meertens RM, van der Molen HT, editors. Gezondheidsvoorlichting en gedragsverandering. Een planmatige aanpak. Assen: Van Gorcum; 2001.

Kok G, Schaalma H, Ruiter RA, van Empelen P, Brug J. Intervention mapping: protocol for applying health psychology theory to prevention programmes. J Health Psychol. 2004;9(1):85–98.
Marlat GA, Gordon JR. Relapse prevention: maintenance strategies in the treatment of addictive behaviors. New York, NY: Guilford Press; 1985.
McGowan PT. Self-management education and support in chronic disease management. Prim Care. 2012;39(2):307–25.
Meertens R, Schaalma H, Brug J, de Vries N. Determinanten van gedrag. In: Brug J, Schaalma H, Kok G, Meertens RM, van der Molen HT, editors. Gezondheidsvoorlichting en gedragsverandering. Een planmatige aanpak. Assen: Van Gorcum; 2001.
Norris SL, Engelgau ME, Narayan KMV. Effectiveness of self-management training in type 2 diabetes. A systematic review of randomized controlled trials. Diabetes Care. 2001;24:561–87.
Peters GJ, de Bruin M, Crutzen R. Everything should be as simple as possible. Health Psychol Rev. 2013;9:1–14.
Petty RE, Cacioppo JT. From Communication and persuasion: central and peripheral routes to attitude change. New York, NY: Springer; 1986.
Prochaska JO, Redding CA, Evers KE. Chapter 4. The transtheoretical model of stages of change. In: Glanz K, Lewis FM, Rimer BK, editors. Health behavior and health education. Theory, research and practice. 2nd ed. San Francisco, CA: Jossey-Bass Publishers; 1997.
Resnick B. A seven step approach to starting an exercise program for older adults. Patient Educ Couns. 2000;39:243–52.
Ronda G, van Assema P, Brug J. Stages of change, psychological factors and awareness of physical activity levels in the Netherlands. Health Promot Int. 2001;16(4):305–14.
Ross HS, Mico PR. Planning for health education. Palo Alto, CA: Mayfield; 1980.
de Saan H, de Haes W. De ontwikkeling van GVO in Nederland: Terugblik en perspectief. In: Damoiseaux V, van der Molen HT, Kok GJ, editors. Gezondheidsvoorlichting en gedragsverandering. Assen: Van Gorcum; 1993.
Sassen B, Cornelissen VA, Kiers H, Wittink H, Kok G, Vanhees L. Physical fitness matters more than physical activity in controlling cardiovascular disease risk factors. Eur J Cardiovasc Prev Rehabil. 2009;16(6):677–83.
Sassen B, Kok G, Mesters I, Crutzen R, Cremers A, Vanhees L. A web-based intervention for health professionals and patients to decrease cardiovascular risk attributable to physical inactivity: development process. J Med Internet Res. 2012;1(2):e21.
Sassen B, Kok G, Vanhees L. 'Predictors of healthcare professionals' intention and behaviour to encourage physical activity in patients with cardiovascular risk factors. BMC Public Health. 2011;19(11):246.
Schaalma H, Kok G. Decoding health education interventions: the times are a-changing. Psychol Health. 2009;24(1):5–9.
Schaalma H, Kok G, Meertens R. Intervention mapping. In: Brug J, Schaalma H, Kok G, Meertens RM, van der Molen HT, editors. Gezondheidsvoorlichting en gedragsverandering. Een planmatige aanpak. Assen: Van Gorcum; 2001a.
Schaalma H, Meertens R, Kok G, Brug J, Hospers H. Theorieën en methodieken van verandering. In: Brug J, Schaalma H, Kok G, Meertens RM, van der Molen HT, editors. Gezondheidsvoorlichting en gedragsverandering. Een planmatige aanpak. Assen: Van Gorcum; 2001b.
Sniehotta FF. Towards a theory of intentional behaviour change: plans, planning, and self-regulation. Br J Health Psychol. 2009;14(pt 2):261–73.
Sniehotta FF, Scholz U, Schwarzer R. Action plans and coping plans for physical exercise: a longitudinal intervention study in cardiac rehabilitation. Br J Health Psychol. 2006;11(pt 1):23–37.
Tedesco LA, Keffer MA, Fleck-Kandath C. Self-efficacy, reasoned action, and oral health behaviors reports: a social cognitive approach to compliance. J Behav Med. 1991;14(4):341–55.
Vallis M, Ruggiero L, Greene G, Jones H, Zinman B, Rossi S, Edwards L, Rossi JS, Prochaska JO. Stages of change for healthy eating in diabetes. Diabetes Care. 2003;26:1468–73.
de Vries H. Tussen optimisme en realisme. Med Contact. 1999;54:1709–10.

de Vries H, Backbier E. Verklaring en verandering van gedrag: een beschouwing van het Transtheoretisch Model. Tijdschrift Gezondheidsbevordering. 1995;16:1.

de Vries NK. Het hart, de ruggengraat en de hersenpan. Perspectieven op gezondheidsgedrag. Rede uitgesproken bij de aanvaarding van het ambt van hoogleraar gezondheidsvoorlichting en -bevordering aan de Faculteit der Gezondheidswetenschappen van de Universiteit Maastricht op Donderdag, November 9, 2000.

Webb TL, Joseph J, Yardley L, Michie S. Using the internet to promote health behavior change: a systematic review and meta- analysis of the impact of theoretical basis, use of behavior change techniques, and mode of delivery on efficacy. J Med Internet Res. 2010;12(1):e4.

Webb TL, Sheeran P. Does changing behavioral intentions engender behavior change? A meta-analysis of the experimental evidence. Psychol Bull. 2006;132(2):249–68.

Windsor RA, Kronenfeld JJ, Ory MG. Method and design issues in evaluation of community health education programs: a case study in breast cancer. Health Educ Q. 1980;7(3):203–18.

Wolfers ME, van den Hoek C, Brug J, de Zwart O. Using Intervention Mapping to develop a programme to prevent sexually transmittable infections, including HIV, among heterosexual migrant men. BMC Public Health. 2007;7:141.

Patient Education and Improving Patients' Self-Management

5

Patient education is more effective by tailoring, individualization, feedback and reward, facilitation, and participation (Sect. 5.1).

Self-management is about how patients can handle their own health and improve their self-management behavior within the framework of their personal opportunities (Sect. 5.2).

In the Chronic Care Model, the contact between patient and professional is central (Sect. 5.3).

Stepped Care focuses on self-management in chronic health problems (Sect. 5.4). The prerequisites of self-management play a role: the exchange of information, participation, decision-making, and dealing with the negative sides of health advice (Sect. 5.5).

Barriers in the communication between the professional and the patient include: instrumental/task-oriented behavior, verbal/nonverbal behavior, privacy, use of medical language, and control (Sect. 5.6).

Positive affective nonverbal behavior and positive verbal behavior result in patient satisfaction and well-being, concordance, understanding and remembering, and shared decision-making (Sect. 5.7).

Important in concordance are: patient compliance/infidelity; compliance and adherence; shared decision-making (Sect. 5.8). Important in non-concordance are patient and social characteristics, characteristics of the health problem and of the treatment, and the context of health care (Sect. 5.9).

For understanding and remembering the following are of interest: the amount of information, the primacy and recency effect, focusing on the patients, selective perception, and fear (Sect. 5.10).

The well-being of the patient is reflected in, among other things, the optimization of the health status, more control over the conversation, and a positive outlook on the issues (Sect. 5.11).

B. Sassen, *Nursing: Health Education and Improving Patient Self-Management*,
DOI 10.1007/978-3-319-51769-8_5

Patient participation promotes self-management (Sect. 5.12).

Patient empowerment enhances self-management, increasing the participation and individual responsibility for lifestyle and health behavior (Sect. 5.13).

Shared decision-making is an interpersonal process in which health care provider and patient work together to achieve health-related decisions (Sect. 5.14).

Effective self-management is reflected in: relevant decisions, health behaviors, dealing with symptoms, self-regulated behavior and well-being, and a strong support group (Sect. 5.15).

With intervention mapping you develop, step by step, based on evidence, a health intervention to optimize self-management targeting a specific patient group (Sect. 5.16). In intervention mapping step 1, you analyze the health problem (Sect. 5.15.1).

In intervention mapping step 2, you state the objectives of the self-management intervention (Sect. 5.15.2).

In intervention mapping step 3, you select your methods and theories for changing behavioral determinants, intention, and self-management behavior. The phase of life of the patient is important (Sect. 5.15.3).

The purpose of intervention mapping step 4 is to the design a specific self-management intervention.

Section 5.16 describes the Model Supporting patient self-management; the training in this section is to support patients in improving their self-management and lifestyle behavior.

Motivational interviewing seeks to increase the intrinsic motivation by the patient aware of choosing the desired (self-management) behavior (Sect. 5.17).

Stages of change is another model (Sect. 5.18).

The Patient Participation Model gives an insight into how to improve self-management in the patient's treatment process and consists of five stages (Sect. 5.19).

With the 5a's construct you can promote self-management when the patient has (chronic) health problems (Sect. 5.20). By using the Ask-Tell-Ask method better information can be given (Sect. 5.21).

Social relationships can promote self-management and behavioral change in the patient, or undermine it. Social relationships should be supported in the health care plan (Sect. 5.22).

Informed consent regulates the duty of information and requirement for permission (Sect. 5.23).

eHealth can positively influence self-management support; it improves patient empowerment and patient participation (Sect. 5.24).

In intervention mapping step 5, you create an implementation plan. The information message is more effective when it focuses on the needs of the patient and lets him participate (Sect. 5.25).

Coordination and continuity of information are important for patients (Sect. 5.26).

In intervention mapping step 6, you write the evaluation plan, with its own effectiveness, health behavior, attitudes, and health status as indicators for the effectiveness of an intervention (Sect. 5.27).

Finally, there is separate training to use in promoting self-management (Sect. 5.28).

After a consultation, nursing professionals may expect a patient to automatically follow up the recommended lifestyle changes and health instructions. This is based on the assumption of the nursing professionals that the patient wants to have the lifestyle and health advice, but also has the capacity to follow them up. If health care professionals provide recommendations and instructions and the patient does not follow them up, it is inefficient and ineffective. The conflict arises because nursing professionals assume that their opinions will be followed up, whereas improving self-management requires the use of a communication process, developing a relationship; that information can be exchanged, shared decision-making is key, and optimizing self-management is the ultimate goal.

Patient education and promoting self-management of the patient, is not simply informing the patient. It is also more than repeating the explanation you have given to the patient or the awarding of a glossy brochure. Patient education and promoting self-management involve entering into a cooperation process with the patient in which there is mutual participation. This requires the education and communication process-oriented clinical skills of nursing professionals. Patient education and promoting self-management starts by exploring the specific educational needs of the patient. Patient education and promoting self-management is about individualizing the lifestyle and/or health advice, and about providing coaching and support tailored to the unique patient situation. Patient education and promoting self-management is also about follow-up and assessing if the nursing professional's intervention was effective.

Nursing professionals can provide patient education and promote self-management as part of their already full schedule using efficient and effective implementation. Patient education and promoting self-management of the patient would need to have a place in every interaction with the patient, as an organized and structured part of patient contact. The effectiveness of nursing care is greater if the self-management of the patient increases (Falvo 2004). In the past, patients were supposed to take on a passive role if they came into contact with health care. Hospital admissions were long, long-term nursing care was offered during the recovery process, and the patient's expectations of the self-care were relatively simple and limited. However, according to the increase in the number of people who survive acute health problems and the increase in the number of people with chronic health problems, treatment and recording time are drastically shortened. At home again, the patient should be able to deal with a complex health situation and recover further.

In this chapter, we report that patient education and promoting self-management by nursing professionals has many important aspects, including the relationship with disease prevention (Sect. 5.1) and barriers to promoting self-management (Sect. 5.2). Important effects of promoting self-management are patient satisfaction (Sect. 5.3), concordance (Sect. 5.4), understanding and remembering (Sect. 5.5), the well-being of the patient (Sect. 5.6), patient participation (Sect. 5.7), shared decision-making (Sect. 5.8), and effective self-management (Sect. 5.9). The importance of intervention mapping for promoting self-management is underlined in Sect. 5.10. In Sect. 5.11 we describe the ins and outs of promoting self-management behavior. In this chapter, we also go into different models such as motivational

interviewing and internships or changes (Sects. 5.12 and 5.13) and the 5as and Ask-Tell-Ask (Sect. 5.15). In Sect. 5.14, we give specific attention to self-management behavior in chronic and significant health problems and in Sect. 5.16 to the support of the social environment. The importance of informed consent is discussed in Sect. 5.17, eHealth in Sect. 5.18. In Sects. 5.19–5.22 we return to intervention mapping because of the important role of this model (planning and performing) in self-management interventions by nursing professionals. This chapter concludes with a separate training exercise to be used in promoting self-management of the patient.

5.1 Disease Prevention, Patient Education, and Self-Management

Disease prevention:

Prevent health problems, but if the health problem is already present, learn to deal with restrictions related to a further deterioration in health.

Patient education:

Planned process with targeted goals that are formulated in consultation with the patient, to change lifestyle and behavior with a favorable effect on the health problem and the patient's self-management.

Patient education does not just mean patient information.

To prevent disease, it is important to promote lifestyle and behavioral changes that are beneficial to the patient. By implementing these lifestyle and behavior changes, the patient is able to better cope with his health problem, and optimize his health within the opportunities available. The goal of disease prevention is to prevent health problems, but, if the health problem is already present, the patient should learn to deal with restrictions related to a further decline in health. For nursing professionals, disease prevention is about optimizing the health of the patient within given constraints. Disease prevention is closely related to patient education. Patient education can contribute to disease prevention, because education can motivate the patient to start behaving themselves in a healthier way. It can contribute to disease prevention, because the patient can be motivated toward self-management. Patient education is a restructuring of health promotion and health education, in that the theoretical backgrounds of health promotion and health education can be used for patient education. The relationship among disease prevention, health education, patient education, and psycho-education is schematically shown in Fig. 5.1. A succinct description of patient education is: "the process or influencing patient behavior and producing the changes in knowledge, attitudes and skills necessary to maintain or improve health" (Falvo 2004).

What is patient education? Patient education can be defined as a systematic process with targeted goals that are formulated in consultation with the patient, to change lifestyle and behavior in such a way that a positive effect on the health

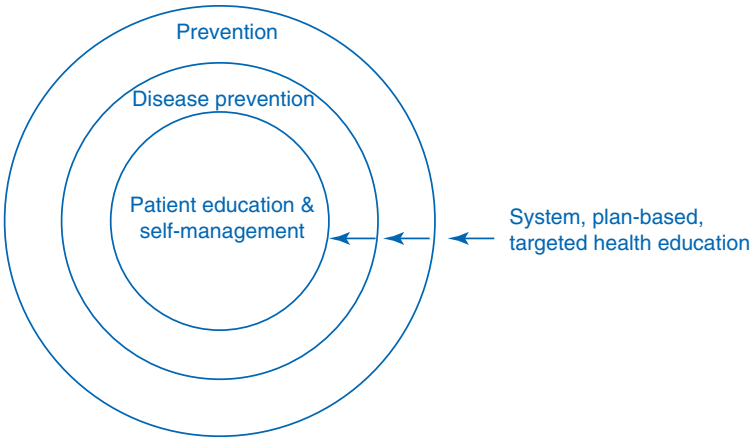

Fig. 5.1 Patient education in relation to prevention and health education

problem and self-management of the patient may be expected (from Damoiseaux 1988). Self-management contributes to patient education, because by implementing patient education, self-management of the patient can be optimized (Bodenheimer 2002 in: Coster and Norman 2009).

Patient education is an integral part of systematic nursing professional care. In nursing care, the target-oriented change in social–cognitive determinants, intention, and behavior enables the patient to change his lifestyle and (health) behavior and improve his self-management. When nursing professionals determine in consultation together with the patient what the desirable changes are, the patient can change, which can have a beneficial effect on self-management and on the health status of the patient. Using patient education, as a nursing professional, you always start from the individual patient situation and the fact that the patient has the right to be well informed. The patient should be able to make informed decisions on matters associated with his health problem and health. Also, you should enable the patient to optimize his self-management, so that his health improves and his quality of life increases.

In an era where lots of information is available and where many different sources of information are available, people receive a lot of information about health, mostly general information. In health care, many health professionals including nursing professionals expend a lot of effort in informing the patient about all kinds of aspects of disease and about self-management. However, patient education is not only about informing the patient. Informing the patient rarely leads to lifestyle and behavioral changes, information will not "create" patients implementing optimal self-management. Thus, patient education and improving self-management is not only about giving information, but also about communicating with the patient, assessing his needs and wishes, developing an open relationship in which it is common to exchange information and feelings, and speak freely, decisions can be shared and compliments and complaints can be talked about.

What is patient coaching? Patient coaching is about initiating lifestyle and behavior changes and promoting self-management of the patient, not by giving information to the patient, but by starting a coaching process. To initiate lifestyle and behavioral changes and to promote self-management, patient coaching is more useful than patient information. With the aim of putting patients in control, you can promote well-being by improving the patient's self-management.

What do patients want with regard to patient education? "Patients want to be taken seriously, want good explanations and information. They don't want to tell the same story to each new healthcare provider. And they want to be able to make decisions together about their care and treatment" (Delnoij 2012).

5.2 Self-Management

Self-management: the foundation of each (nursing) intervention to put patients in control of their health situation and to promote well-being.

Self-management is about:

- Handling symptoms of the disease
- Handling medication and side-effects
- Monitoring and handling the health situation
- Handling negative emotions related to the health problem
- Being the director of their own treatment and care process

For self-management, self-correcting behavior is needed.

Self-management is the individual capacity of the patient to handle his health problem, the symptoms and the physical and psychosocial consequences of his health problem, and to make lifestyle changes inherent to having the health problem (Barlow 2002). Self-management behavior is complex behavior. The patient should monitor his own state of health, should signal signs and symptoms and respond to improvements in well-being and quality of life. Nursing professionals should facilitate and support the self-management of the patient. Often, nursing professionals should also have to involve the people in the social network that can support the patient in his own management. Promoting and supporting self-management is now a standard part of nursing care. Promoting the self-management of the patient is the foundation of each nursing intervention to put patients in control of their health situation and to promote well-being (Parchman et al. 2003).

b Self-management is about how patients can handle their own health and improve their self-management behavior within their personal opportunities.

What kind of behaviors are linked to self-management for (chronic) patients? To have more control over his health situation, a number of the patient's behaviors are connected to self-management (Ryan 2009). First, a patient with a chronic health problem changes his behavior to handle the symptoms related to the chronic condition, for example, symptoms such as coping with pain, fatigue, and shortness of breath. Second, a patient with a chronic health problem should manage his medication, both for prescription medications, and (if necessary) manage over-the-counter medicines. For example, the patient must recognize and deal with side effects of medication use, report any unintended effects of medication, and report if the medication has not the desired effect. Third, the patient with a chronic health problem should monitor his health and take decisions based on this monitoring. For example, the patient should monitor blood glucose levels and target certain values in the blood using medication. Or, he should monitor his body weight and targeted action if his weight is increasing or decreasing. Fourth, the patient with a chronic health problem should cope with negative emotions and despite his health situation continue to carry out his social and societal roles. Finally, the patient should direct his own treatment and care process with regard to his chronic health problem (VWS 2011).

Does self-management focus on symptom management or on learning to live with the health problem? A review revealed a difference in focus in different self-management interventions (Coster and Norman 2009). In patients with asthma, diabetes, epilepsy, and bipolar disorders, the focus was on symptom management, such as monitoring air flow or blood glucose. In these interventions, the focus was learning strategies based on action plans to identify symptoms and to prevent or limit negative effects. These self-management interventions have direct visible effects on the health of the patients. Also, knowledge was improved. In patients with arthritis, back pain, cerebrovascular accident, and eczema, the focus was on the psychosocial problems of the patient and how to live well with the health problem. These self-management interventions were shown to be less effective, and the long-term effects were unclear (Coster and Norman 2009).

Is self-correcting behavior important in the case of self-management? Self-management asks the patient for self-correcting behavior, which is not easy. This self-correcting behavior is described as: "watch, discover, think and act!" (Kok and Schaalma 2004). For self-management, the patient should monitor one or more aspects of his health problem, for example, his blood glucose levels. These aspects of the health problem are a constant concern for the patient. Second, for self-management the patient evaluates these aspects of his health. The patient compares his own observation data with normal values, or the patient analyzes the cause of the problem. The patient tries to discover if, for example, his blood glucose level differs compared with the values he wants his blood glucose to have, and thinks about how he can handle the situation. Third, the patient should act. The patient should respond to his findings by deploying a behavioral correction of the aspects associated with the health problem. The patient considers and plans the solution, and performs the intent to the desired behavior. Self-management is about more than putting these steps into motion, and this underlines the complexity of self-management (Kok and

Schaalma 2004). Most patients with chronic health problems should manage their health problem daily. Often, these patients and the people in their social network are not prepared for this responsibility. This can cause patients to have to go to a hospital, the desired outcomes of care are not achieved, and a pressure persists on primary health care. These are all indicators that the self-management of the patient does not reach the desired level (Ryan 2009). Successful self-management has important benefits not only for the patient himself, but also for the health care system and society as a whole.

5.3 Chronic Care Model

The chronic care model (Fig. 5.2) is aimed at offering chronic care in a good way (Wagner et al. 1996). In the chronic care model, self-management is important. The model gives attention to stimulating and supporting patients with chronic health problems and their families to manage the health problem in daily life. Huiben (2011) describes self-management as the individual ability to handle symptoms, treatment, physical and social consequences, and lifestyle changes inherent to living with a chronic condition.

In the chronic care model, the contact between the patient and the healthcare provider is central. With self-management, the patient is the director of his own treatment and care process. The patient learns to deal properly with his health problem and to get support from health care providers or people from his social network. The health care provider is a fixed point of contact for the patient and coordinates the care around the patient's self-management. The health care provider devotes

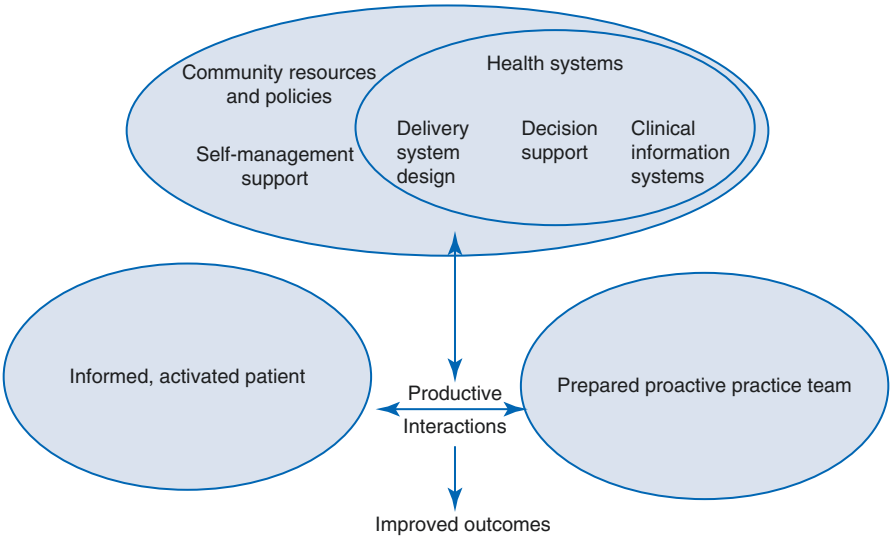

Fig. 5.2 Chronic care model (Wagner et al. 1996)

more attention to both the health problem of the patient and to health promotion and the consequences of the health problem for the quality of life.

For healthcare providers, the chronic care model means that patients are not only informed and guided, but that behavioral change and promotion of self-management should be a part of this. All healthcare professionals play a role in supporting the self-management of the patient. Health care professionals should work together in integrated care; this means continuous care in which the parts are well-tuned. The health care provider is supported in his decisions by guidelines and protocols that are evidence-based. In addition, there is a clinical decision support information system, in which patient data are collected and made accessible to health care providers and to the patient. The way in which a (multidisciplinary) team works together is changing. The society can make a profit out of this different method of self-management support, because it improves the quality of life of people with chronic health problems.

The chronic care model provides the interaction between the informed and activated patient and a prepared and proactive team of health care providers, combined with a health care system embedded in society. In the health care system, attention should be directed at self-management, the care process, decision-making, and clinical information systems. In the Chronic Care Model, productive interactions should result in improved outcomes.

5.4 Stepped Care

Stepped-care is a self-management approach. In stepped-care patients with chronic health problems are conceptualized at different levels, depending on the severity of the health problem and the complexity of care and treatment (Fig. 5.3). This ranges from people not identified or not seeking treatment, approximately 60% of the prevalent population, to people with more complex needs, approximately 5% of the prevalent population.

On the upper step of the pyramid, patients have complex health problems and they need complex care and treatment. For self-management, these patients need targeted self-management support, a patient-specific self-management plan, case management, and a multitude of methods to promote self-management. The self-management support is aimed at dealing with treatment, symptoms, medication, and behavioral changes that are desired so that the patient can cope well with the health problem, but also expands on a healthy lifestyle. On the third step of the pyramid, people need self-management support, using high-intensity interventions. The third level is about 6% of the prevalent population. On the second step in the pyramid, patients with a chronic health problem need mainstream care and treatment. These patients need to be supported in learning to run the desired self-management, in learning to deal with medication and expanding health and well-being. The second step consists of about 9% of the population. On the first step in the pyramid, people need early identification of signs and symptoms and active monitoring or referral and this is about 20% of the prevalent population. At step 0 of the pyramid,

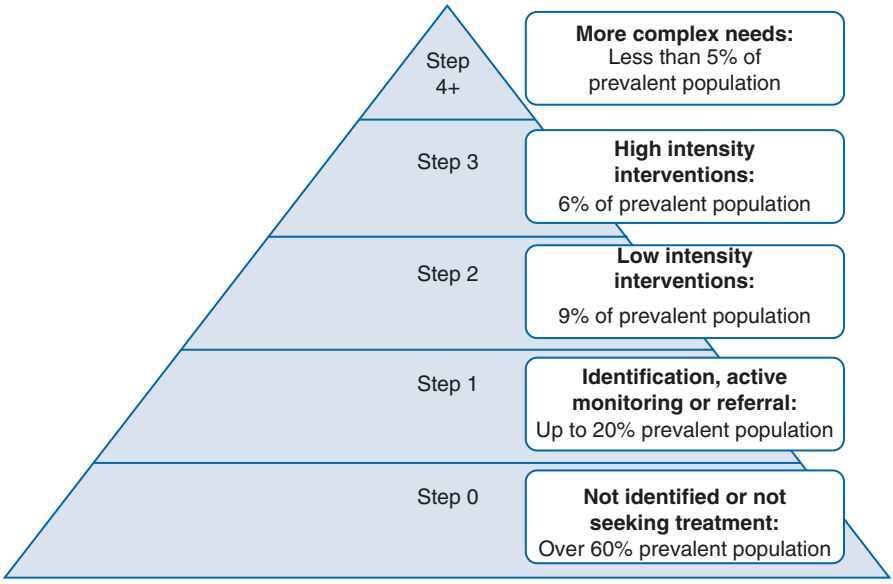

Fig. 5.3 Stepped care and self-management

people are not (yet) identified as having a health problem or are (already) seeking treatment. The step 0 group is about 60% of the prevalent population. At any level in the pyramid, there may be patients with limited health skills.

5.5 Self-Management: Prerequisites

How can we make self-management effective? For effective self-management, the involvement of the patient is a prerequisite. In daily practice, patients vary in their involvement in self-management interventions. Some patients have little or no confidence in their own ability to self-manage their health problem, and are passive or see the medical treatment as the only effective way to treat their health problem. Other patients have a lot of confidence in their own ability to self-manage and energetically attempt to get started, ask for little support, and are autonomous in their self-management. It is important in patient education and when promoting self-management to take into account the differences that exist between patients.

An ever-increasing group of people are well informed and knowledgeable not only about all kinds of medical issues, but also around treatment and care. There is a growing medical interest of the patient. It is to be expected that patients in the future will make their needs known ever more clearly, will be more demanding, and will expect high-quality patient education and self-management support. Also, the development is already under way in which patients expect patient education and care to be evidence-based and effectiveness to be shown.

The increased medical technology and new diagnostic possibilities underline the importance of good education. The stay in the clinic is getting shorter and the education process is continued in the home situation. In the home, it can be easier to support social relations involved in the education and to learn behavioral changes that are needed for a longer period of time or that need to be sustained throughout life, such as in the case of chronic (psychiatric) health problems. These behavioral changes for improving self-management, can also be best taught as directly connecting to the patient's living situation. Patient education will become more common, starting even before recording and treatment, because this increases the effectiveness. Before the patient will trust the lifestyle and the health advice of nursing professionals, he must have confidence in the nursing professionals themselves. This trust in the nursing professional is based on confidence in the experience of the nursing professional and the built-up trust in the relationship with the nursing professional.

For self-management, involvement of the patient is a prerequisite.

Implementing patient education and improving self-management improve patient satisfaction.

Patient-centered, effective patient education needs: tailoring, individualization, feedback and reward, facilitation, and participation.

For effective self-management, the patient: (1) should be able to monitor his own health status, and (2) should be able to make decisions based on signs and symptoms. The patient should learn these skills and incorporate the needed self-management behaviors so that he is able to cope well with his health problem. Also, the patient (3) should be able to deal with the consequences of the health problem, deal with negative emotions, so that he can continue to fulfill social roles. He should be able (4) to be the director of his own health and lifestyle, and finally the patient (5) should be able to deal with nursing professionals, other health care providers, and the health care system.

Patient-centered education leads to more satisfaction in patients. Patient-centered education has important accordance with effective patient education. Effective patient education should meet a number of conditions. A first condition is tailoring. By tailoring, we mean that the education must be "tailor-made," that it must be tuned into the individual needs (social–cognitive determinants, intention, and behavior) of the individual patient. A second condition for patient-centered, effective patient education is individualization. Individualization means that there should be individual patient coaching in a direct contact between nursing professional and patient. A third condition for patient-centered, effective patient education is feedback and reward. The patient is given feedback by the nursing professional in accordance with the extent to which the goals of self-management have been earned and he is rewarded if the desired (part) effect is reached. A fourth condition of patient-centered, effective patient education is facilitation. Facilitation means that the

patient is able to stick to the lifestyle and behavioral change. And finally, a fifth condition for patient-centered, effective patient education should be that there is participation. If the patient is offered a clear share in the communication and is invited to participate, this increases the probability that the goals that the nursing professional has established together with the patient will be achieved (Green and Kreuter 2005).

5.6 Barriers in Promoting Patients' Self-Management: Provision of Information

Barriers in promoting self-management – provision of information:

- Mutual exchange of information.
- Participation.
- Taking decisions.
- Handling negative sides of lifestyle and health advice.

Barriers to promoting self-management that the patient encounters are concerned with the provision of information and the communication between the nursing professional and the patient (Sect. 5.7). In the provision of information, important barriers are: (1) the mutual exchange of information, (2) participation, (3) taking decisions, and (4) handling negative sides of lifestyle and health advice.

What is the importance of exchanging information between the patient and the health professional (1)? Bad information and bad patient education, such as the timing and manner of informing the patient, are major obstacles for the patient. For example, it turned out that cancer patients were not well-informed after receiving information, and this occurs even at an advanced stage of the (chronic) disease. Another example: patients with rheumatic diseases, even if they say that they are well informed, often turn out to have a strong need to discuss alternative forms of treatment and unanswered questions.

Patients who are hesitant to ask questions, often do not know what questions they should ask. Or patients know what they should be doing, but have been unable to implement this. Patients who need to undergo (cataract) surgery experience a lot of fear, when they hear the diagnosis and back home, during preparation for the surgery in hospital, the day of the surgery, during the post-operative visits, and during follow-up visits after they come home again (Nijkamp et al. 2002).

In one study (Boot et al. 2005), patients were asked what the diagnosis of their health problem was. This study showed that 35% of asthmatics and 30% of the COPD patients could not tell the correct diagnosis. This study also showed that patients who had more knowledge about their health problem were less limited and had better self-management.

If the patient feels that he is not able to handle the situation, this is clearly related to both the quality of the information and to the preparation for treatment or when

undergoing medical research. Informing and preparing the patient then often has a lack of systematic intent. The information is not sufficient based on the questions and needs of the patient, or there is not enough recognition that anxiety makes it impossible to record and process information (Breemhaar 1996).

Is this also true for patients who have cancer? Research showed that cancer patients want to hear all the available information about their health status, both the positive and the negative, but this was often not provided. This seems to arise from the wrong view of health care providers about their needs. The information needs of cancer patients are fulfilled in the period just before the medical treatment (diagnostic phase), during the treatment (in hospital and after discharge), and after treatment (recovery, terminal stage) (Mesters et al. 2001). Greater information needs of the patient often appear to go together with anxious and depressed feelings; the reverse is also possible: that the patient who is informed, worries, but needs more information. Also, there may be a relationship between feelings of depression and anxiety and cognitive functioning of the patient. When there are feelings of anxiety and depression, the information may be less well processed by the patient (Mesters et al. 2001).

In a survey by McWilliam et al. (2000) about providing information to patients with breast cancer, it was shown that both the relationship and the provision of information were experienced in a positive way, if the patient felt that the contact was aimed at developing a collaborative relationship. The relationship and the provision of information were experienced in a negative way, if no cooperative relationship developed, if doctors offered false reassurance about the prognosis of cancer, if they gave badly timed information, and if they offered no hope for the future. The patients in this study felt more vulnerable in such a relationship and were unsure about the fact that they had no control over their health situation.

Patients became upset by the negative attitude of the health professional, if the attitude was not patient-oriented, if no specific information was given, when it was not possible to express feelings, when questions could not be asked, and when there was no space given to decide. Informing the patient at an incorrect, inconvenient time had a daunting effect. The same applied to an excess of information, or getting information without hope, or without a positive view of an improvement. Patients felt lonely and not supported; not capable of positioning their health problem in their lives. When patients experienced no control over their health situation, they searched for other health care providers to restore the balance. The feelings of vulnerability became stronger, when the professional frequently stressed that nothing was wrong or that it would all work out. Building a positive relationship and sharing information were undermined. This led to feelings of guilt and anger as the unfavorable diagnosis in retrospect was shown to be inevitable (McWilliam et al. 2000).

What is the importance of participation (2)? Having a positive interpersonal patient–health professional relationship is a condition for optimal care. The input of the communication should be formed by the combination of a patient-centered and professional-centered approach. The patient leads the communication on matters in which he is the expert, such as symptoms, concerns, and fears. The professional has her own expertise such as care, treatment, and details of the condition. In a positive

interpersonal relationship, the patient and the professional cooperate with each other because they each have their own expertise, and combined, the expertise gives a complete picture of the patient's health problem. In such a positive interpersonal relationship, mutual participation can take place.

This exchange of information is necessary. For the patient, it is important to know, to understand, to be known, and to be understood. For example, the patient wants to know what is going on, wants to understand where the pain is coming from, wants his pain complaints to be taken seriously, and that there is understanding of the influence of pain on his functioning. For the health care provider, it is important to make a diagnosis and treatment and care plan; the health care provider wants this to be evidence-based with the objective of delivering good-quality care.

Is it easy for health professionals to assess the information needs of the patient? In general, health care providers do not judge the information needs of a patient very well. Although most patients want as much relevant information as possible, this information need is often underestimated. More than 90% of patients with cancer perceive the need to receive all available information about the health problem, both good and bad news. Patients define their information needs in terms of personal relevant information. For example, will I completely recover? How much pain will I have? Health care providers access the information needs of patients as a need for objective information. Thus, they inform the patient about the type of health problem, the stage of the disease, and the type of treatment. Giving the patient objective, professional information gives the health care provider the feeling that he has informed the patient well. Receiving this objective information gives the patient the feeling that it is not about him personally, or that it is mainly about other patients, or that he has heard nothing new.

- **Are there limits to the active, participatory role for the patient's self-management?** Yes, there are limits, not every patient is able to actively manage his health problem and not every patient is able to handle his self-management as an "electing" consumer (Delnoij 2012).

Is it easy for patients to assess their own information needs? Many patients who visit a health professional have an existing opinion, or go with clearly formed ideas. Many patients acquire medical knowledge by talking to others, via the media, and the internet. It is no longer the case that health professionals gain the patient's confidence because they possess the authority in health information. From the patients' viewpoint, health professionals are less frequently seen as the guardians of health and the solution to their health problems.

Patients need to be increasingly involved in care and treatment, and to have their own decisive role to play. The patient visits the health professional with an idea of what is wrong with his health, why this has happened, and what he expects of the health professional. Because the patient starts the consultation having clear expectations, tensions can soon arise during the consultation. These expectations of the patient may differ from what the health professional is picking up in the conversation. The

health professional may see other causes of the presented health problem, what the causes may be and what the "solution" is. Making this disclosure may not reflect what the patient has introduced. It is therefore important, to assess the patient's "agenda" and to clarify this at the start of the consultation. By matching this, it is clear for both the patient and the health professional what the conversation will be about.

The symptoms reported by the patient should play a central role for the health professional in understanding the disease and associated behavior of the patient. Even if they have the same health problem and the same symptom pattern, patients all have different expectations of what is a desirable option for handling the problem. The skill of a health professional in giving information in a clear and concise way is important, but information alone is rarely sufficient. It is important to match the information to the self-reported symptoms and to the extent to which the patient understands his (health) problem. Although patients need to be well informed before they are able to follow the recommendations, the chance of them following up the recommendations is greater if this is based on personally relevant information. Contrary to what is often expected, it turns out that patients who are better informed experience fewer problems. Information, therefore, has positive effects, but the one-off provision of information has little effect as a rule. Health professionals should continue during successive consultations to check if the patient understands and interprets his individual health status correctly. Also, patients should be encouraged to ask questions: what do you think of my proposal? Is this a good idea? If it is unclear or are there other affairs that you would like to talk about (with regard to the health problem)? Can you tell in your own words what I just said? The consultation is based on mutual participation, if the personal information is relevant to the patient and the patient is invited to a play a participatory role.

> ▶ **True or not true?** Compared with 30 years ago, are patients now much more assertive? "Contrary to expectations, patients are less active in communicating within the health care system, they present fewer questions, they talk less often and they talk less often about the issues that concern them." (Bensing 2006 in Delnoij 2012)

Does the mutual participation model improve communication with patients? The starting point implementing the mutual participation model is the individual need of the patient. In this model attention is given to negotiating with regard to the health advice. How does this work? The patient has his own area of expertise; these are his psychosocial needs. The health professional has her own area of expertise: about nursing, medical knowledge, and psychosocial skills. By properly combining the areas of expertise, the route can be negotiated to get started with the health problem. In joint consultation, the patient determines together with the nursing professional how he should approach the health problem. If the route to approaching the health problem to go is provided, the patient should learn to follow the lifestyle and health advice. If a patient does not understand why he is supposed to follow lifestyle or health advice, he is not able to learn to follow those recommendations. This may be

the case if the health professional has no insight into the problems and if the patient experiences barriers following lifestyle and health advice.

The mutual participation model does not diminish the responsibility of the health professional, but the model simply changes the focus of that responsibility. If the patient's responsibility is highlighted too heavily by the nursing professional, then this has the opposite effect. This will give the patient the feeling that he stands alone. If a patient has the feeling he stands alone, he finds the experience of the health professional of little value and there is a chance that he will stop the treatment.

What is the importance of making decisions together, the patient and the health professional (3)? One of the goals of communication between the patient and the nursing professional is to make decisions about care and treatment (see Sect. 5.23 Informed consent). Not every patient likes to be involved in making decisions that are strongly linked to care and treatment. The reason for this is that the patient feels responsible for the treatment results. Above all, if the disease returns, the patient might feel that he had made the wrong choice.

What is the importance of negative consequences in making decisions (4)? The same is true but to a lesser extent with regard to making decisions about whether to follow up lifestyle and health advice. Making a decision may mean for the patient that he accepts the negative consequences in the short term to reach the long-term goals. However, in some cases, the consequences in the short-term weigh so heavy, that it seems to be impossible to reach the long-term goals. The immediate results may also be not enough for the patient to continue motivating his decision. This is the case, for example, if the patient experiences side effects of treatment.

Patients can respond in a number of ways, depending on the consequences that following lifestyle and health opinions have (Falvo 2004). First, the patient may ignore the health advice and maintain the current (undesirable) behavior pattern, regardless of the consequences for his health and well-being. Second, the patient may give the nursing professional the impression that he has decided to follow (part of) the health advice, but does not do this. Often along with excuse behavior. For example: my partner no longer reminds me to use my medicines, or; I am to busy. Third, the patient may also adopt a passive role and take over the health advice without asking questions. By doing this, the patient puts the decision entirely in the hands of the nursing professional and he is confident that it is good advice. Fourth, the patient may balance the pros and cons and based on this decides whether to follow the precepts. In this case, the patient searches for additional information or examination, sometimes a second opinion, and bases his decision on the information collected. This pattern of decision-making by weighing up the pros and cons and information collection probably leads to the best decisions. Finally, the patient may perceive the health advice as threatening or as an impossible experience, that the opposite opinion is going to work. You will find that the patient often starts to actively seek other solutions to its problems.

5.7 Barriers in Promoting Patients' Self-Management: Communication Between the Patient and the Nursing Professional

Barriers to promoting self-management – communication:

- Instrumental and affective behavior.
- Verbal behavior versus nonverbal behavior.
- Privacy, sensitivity of information.
- Medical jargon.
- Control.

In addition to the provision of information, specific communicative behavior plays an important role in communicating between the nursing professional and the patient. Important barriers in promoting self-management are instrumental versus affective behavior (1), verbal and nonverbal behavior (2), privacy, sensitivity of information (3), and medical jargon (4).

What is the importance of instrumental and affective behavior (1)? Instrumental or task-oriented behavior is mainly cognitive in nature. Using instrumental or task-oriented behavior is directed at providing information, asking questions, discussing side effects or the side effects of treatment, and technical aspects of the health problem. This behavior is fairly business-like and consists of technical skills that are used to reach the solution of a problem. The behavior gives the nursing professional an "expert level." Affective behavior is mainly emotional by nature and this belongs to the emotional domain. Affective behavior is about openness and honesty, showing empathy and giving confirmation. It is empathic behavior and skills are used to develop a positive relationship with the patient and maintain the relationship.

In many cases, nursing professionals and doctors contribute 60% of the communication with the patient, the patient contributes 40% of the dialogue. Nursing professionals and doctors take up 25% of the dialogue by asking questions and 35% is filled with giving information and advice. Closed questions may be asked, especially in the assessment phase. The extent to which the professional gives information is very much linked to the extent to which the patient asks questions. Women ask more questions and receive more information. Patients also seem bashful about asking questions. Possibly, a longer lasting interaction between the professional and the patient is necessary to allow information needs to evolve. Patients who ask many questions, express their concerns, and are fearful receive more information than patients in whom this is not the case. Topics that have a relationship with the emotional state of the patient are least discussed.

▶ **Different types of patients, or not?** Some patients focus on outcomes, on the effects of the care, and for that reason go to another healthcare provider. Some patients focus on trust and a good healthcare provider–patient relationship. If people get sick and dependent, they fall back on trust rather than on outcomes (Groenewoud 2008 in: Delnoij 2012).

- This is also true for young, relatively highly educated and empowered patients (Van Empel 2011 in Delnoij 2012).

If the nursing professional shows nervous excitement, is tense, or shows little self-confidence while informing, this may cause the patient not to take the information seriously or place question marks as regards the accuracy of the information. Informing the patient in a non-interested, routine way, can also have negative effects. The patient may perceive this as disinterest or conclude that his specific problems and concerns are not covered by the story. Patients may see the relationship as being less valuable, or get demotivated about implementing the recommendations. In addition, the patient may see it as his own responsibility to change the recommendations so that they are more appropriate to his own needs.

What is the importance of verbal versus nonverbal behavior (2)? In addition to instrumental versus affective behavior, verbal versus nonverbal behavior is an important element of communicative behavior. The verbal behavior of the patient may facilitate self-management, and inviting the patient to participate actively in the communication has a positive effect on the patient's self-management. Asking open questions can promote cooperation between the nursing professional and patient. For example: "Can you tell me what you understand about your condition/disease/problem? Can you tell me how you feel now that I have told you this?" In addition, reflective statements made by the nursing professional encourage the patient to continue to participate in the communication. For example: "Now we have discussed that it would be a good idea if you could start moving more, how would you describe this motion advice?" Finally, confrontational statements can also make a positive contribution to the communication. It is possible that the patient may not be aware of certain verbal or nonverbal expressions. The nursing professional may then say for example: "Now I hear you say that you are willing to go and move more, but is it true that I see that you are still uncomfortable with it?" Naming of verbal and nonverbal expressions by the nursing professional can facilitate the communication process and improve self-management.

The patient is very sensitive to the nonverbal communication of the health care professional. The nonverbal behavior of the professional delivers unintended messages "to pass through" to the patient. The patient pays attention to inconsistencies between the verbal behavior of the professional (what is said) and the nonverbal communication. Fifty-five percent of the nonverbal behavior of the professional consists of visual elements, such as eye contact and body posture. Twenty-five percent of the nonverbal behavior of the professional is transmitted by the intonation of the voice. Approximately 7% of the emotional communication is expressed verbally by the professional. The professional's hastiness or inability to make eye contact may be interpreted by the patient as disinterest. The nonverbal behavior brings about in a subtle way the beliefs and emotions of the nursing professional to the patient.

The patient's nonverbal behavior gives an indication of his emotional state, any discomfort, or simply the need to receive more information. The nursing professional may be paying attention to the patient's nonverbal expressions, and may

determine more accurately whether her interpretation of the patient's verbal behavior is correct. If there seems to be a discrepancy between the patient's verbal and nonverbal behavior, the nursing professional would need to collect further information to correctly interpret the patient's message. When the patient's verbal and nonverbal communication are in sync, then this is an indication that there is progress in the communication. If the discrepancy between the verbal and nonverbal behavior is not resolved, or if the interpretation of the nonverbal behavior is not checked, this can have a significant impact on the working relationship and the ultimate effectiveness of self-management.

What is the importance of privacy (3)? The privacy sensitivity of information is also an element that affects communication. It is often inevitable for nursing professionals to ask their patients personal and intimate questions, but this may be highly problematic for the patient. The threat to privacy is not only in providing an insight into personal, intimate feelings and fears, but also physical exposure, as is necessary in many medical and nursing situations.

What is the importance of medical jargon (4)? An element that also affects the communication is the use of language by the nursing professional and the patient. Nursing professionals use both technical jargon as everyday parlance and exchange the two forms. Patients tend to be less or not familiar with medical terms and technical jargon, and this can pose a problem for the patient. Communication may become complicated if medical terms are not or only partly understood, or when the patient uses medical language to join the professional and does not (exactly) know what it means. As a nursing professional, you can avoid using technical jargon and technical medical language, but another solution is more obvious. In promoting self-management, it may be important for the patient to learn important medical terms. It would be better if health professionals were to give lifestyle or health advice in layman's terms and supplement this by using technical jargon. If you speak only in layman's terms, the patient may perceive this as paternalistic communication. By only using layman's terms, you as a nursing professional also inadvertently communicate that patients with a lower level of education would not be able to understand the different statements about their state of health. This assumption is incorrect. Also, it is incorrect to assume that more highly educated people can understand medical terminology. Misunderstandings can be prevented by clarifying and explaining medical terms, which can be simplified by using analogies, for example, the heart as a pump.

How important is it to be in control (5)? The extent to which the health care provider or the patient has control over the conversation affects the communicative behavior. When the nursing professional has a lot of control over the conversation as they ask a lot of questions and interrupt the patient, the patient experiences the professional as being dominant; the nursing professional decides what is best for the patient. The opposite takes place in the patient-centered relationship, in which there is more equality. The patient has more control over the conversation if he has more knowledge about his own health problem, by his understanding of his medical problems, about side effects, by his sense of control over uncertainties; the nursing professional will be in control of the medical information.

- Patient satisfaction and patient-centered relationship. A review showed that in patients who had suffered a stroke, by consultations that asked about the active involvement of the patient, the cerebrovascular accident-related knowledge was increased, depressive symptoms were improved, and the patient satisfaction had increased (Smith et al. 2008 in: Coster and Norman 2009).

5.8 Effects of Promoting Self-Management: Patient Satisfaction

Effects of promoting self-management:

- Self-management improves: patient satisfaction; concordance; the understanding and remembering; patient well-being; shared decision-making; and improved self-management.

Promoting the patient's self-management is of central importance in nursing care, and barriers in communication are shown in information and communication. But what is effective communicative behavior of nursing professionals and what results or patient outcomes can be achieved? Important patient outcomes or effects of the promotion and support of patients' self-management are that nursing professionals can improve patient satisfaction, improve concordance and handle noncompliance, improve patients' understanding and remembering, improve patients' well-being, and very importantly, improve shared decision-making and the self-management behavior of the patient.

Patient satisfaction is an important result of promoting and supporting patients' self-management. Communication is shown to be the least satisfying aspect of the encounter between the nursing professional and the patient, and about a third of patients are unhappy about the communication.

Effects of promoting self-management – patient satisfaction:

Necessary for promoting and supporting self-management of the patient are: positive affective, nonverbal behavior and positive verbal behavior.

Patient satisfaction is strongly influenced by the positive affective, nonverbal behavior of the nursing professional. Positive affective, nonverbal behavior is making eye contact with and showing an interest in the patient, in his health problem, and in his social conditions and circumstances. The outcome is also influenced by the positive verbal behavior of the nursing professional. Positive

verbal behavior is using the (first) name of the patient, to create an atmosphere of privacy, to sit down with each other as you speak, and by not interrupting the patient, discussing the prospects with regard to the treatment and the potential for dismissal. All these factors are positively related to the patient's satisfaction.

Forty percent of patients have low patient satisfaction and important causes of this are in underestimating their information and education needs and showing dominant behavior by the health care provider in communication. For example, the satisfaction of cancer patients and the degree to which they assess their quality of life can be predicted from the affective relationship with their health care professional (Ong et al. 2000). This means that an unfavorable affective relationship has an adverse effect on patient satisfaction and quality of life.

- **Self-regulation 1**. Patients with chronic health problems regulate their own drug use. It is not that they are not following health advice, but they adapt the medication use so that it fits well with their self-image and lifestyle (Marks et al. 2005).
- **Brighter image?** Even if patients indicate that they do not use all their medication, does this correspond to their actual intake? No, patients overestimate their medication intake. But also, even part adherence may improve their health situation.
- **Six patterns of medication use** can be distinguished for patients with chronic health problems: 1 out of 6 patients is a close approximation to "perfect adherence" and they use all their medication. 1out of 6 patients takes all the medication as agreed, but with irregular timing. 1 out of 6 misses a single dose during the day and the timing is sometimes incorrect. 1 out of 6 patients take "drug holidays" 3–14 times a year. 1 out of 6 patients take a "drug holiday" monthly or even more frequently. Finally, 1 out of 6 patients takes little or no medication, but gives the impression that their intake is correct as agreed (Budenz 2009).
- **Is it easy to determine medication use?** Most patients with glaucoma overestimate the degree to which they take medicines as agreed and care providers are not able to determine which patients do and which do not to stick to the appointments (Budenz 2009).

5.9 Effects of Promoting Self-Management: Concordance

Effects of promoting self-management – concordance:
Compliance and noncompliance.
Adherence and nonadherence.

To promote and support the patient's self-management, nursing professionals give lifestyle and health advice. The assumption here is that if the patient follows the lifestyle or health advice, self-management is enhanced and the patient is better able to deal with his health problem. However, many patients do not follow lifestyle and health advice. In the past, common terms for not following lifestyle and health advice and specifically for not taking prescription medicines was therapy infidelity or noncompliance. These terms have been replaced by nonadherence, but this does not cover the concept fully either.

What problems are meant by the concepts of therapy infidelity, noncompliance, and nonadherence? The issues may be different, for example, taking painkillers for a reason other than for which it is intended, taking it a higher or lower dose, not complying with the maximum duration of use, or not taking the medicine at all. In principle, the terms therapy infidelity, noncompliance, and nonadherence apply to all medical and nursing instructions, advice, recommendations, etc. A patient is called compliant, when that patient "follows up" recommendations, opinions, and instructions.

The extent to which patients are noncompliant or nonadherent is unclear, but a review (Falvo 2004) shows that this is somewhere between 50 and 75%. Regarding drug use, it is known that 60% of patients cannot identify their own medication, 30–50% ignore or do not follow-up instructions, 14–21% do not adhere to the advice, and 12–20% take medication that has been prescribed to others. About 50% of the medication that is prescribed to patients with chronic health problems is not taken in accordance with directions and this has negative health effects, leading to hospitalization and an increase in morbidity and mortality (Viswanathan et al. 2012). This systematic review showed that the self-management around asthma medication and the case management around depression need attention.

Patient compliance is higher in short-term care and treatment than in long-term care and treatment, and is more difficult if it is a chronic health problem, if lifestyle changes are desired, and if the treatment is complex, far-reaching, and inconvenient. The reasons for therapy infidelity are simply forgetting, changes in the daily routine, depression, uncertainty about the effectiveness of the treatment, lack of knowledge about the consequences of therapy infidelity, complexity, little social support, economic problems, and side effects (Lerman 2005). Health and lifestyle advice is often complex, and even though these recommendations come from guidelines, many patients are unable to form long-term opinions.

Socio-demographic characteristics of patients, such as education and age, are not the cause of therapy infidelity. According to Marks et al. (2005), most patients do not completely follow specific medical or health-oriented advice. Patient compliance is a dynamic process and the patient does not exhibit the same degree of adherence every day (Lerman 2005). Simplifying health and lifestyle advice can favorably affect patient compliance. Also, as side effects or negative effects are limited, this has a beneficial effect on the patient's compliance.

Concordance is if the patient together with the nursing professional makes arrangements regarding self-management and draws up a plan of what he is (or is not) going to do. It is a shared decision-making process.

Nonconcordance is when the patient fails to fulfill his appointments with the nursing professional.

Nonconcordance, characteristics:

- Patient characteristics.
- Characteristics of the health problem.
- Social characteristics.
- Characteristics of the treatment.
- Characteristics of the context of the health care and control.

What is concordance? Concordance is a relatively new concept that indicates that there is agreement between the nursing professional and the patient about how the lifestyle or health advice is going to be carried out by the patient. Concordance is based on the concept of shared decision-making and includes a joint discussion about the advantages and disadvantages of the lifestyle or health advice, looking at what it means for the patients' social opinion and social conditions, and see what kind of skills are needed. To promote the patient's self-management, the patient is invited to participate and to take an active role. Concordance calls for the drafting of a plan in which the nursing professional and the patient agree what, how, and when the lifestyle or health advice is going to be carried out. For example, drug x is taken at breakfast time with water, except if the patient does sports in the morning, medicine x is taken for lunch with water. The plan, drawn up in consultation, should be the result of a shared decision-making process (Elwyn et al. 2003). There is concordance if the patient together with the nursing professional made the arrangement and in a plan, they have stated what he is going to do; if the patient fails to fulfill his appointments with the nursing professional, this is called nonconcordance.

- **Self-regulation 2.** Patients with chronic health problems are aware of the benefits that good medicine use offers, but it also reminds them that they have a health problem. By reducing their drug use, they get the feeling that they are getting better (Marks et al. 2005).
- For the **self-management of patients with asthma**: patients who have their asthma symptoms monitored and have learned how to administer their medication accordingly, achieve the same results as doctors. The patients remain under regular control (Powel and Gibson 2002 in: Coster and Norman 2009). This combination of monitoring and medication matching is also effective in children (Wolf 2002 in: Coster and Norman 2009).
- **Compliance**. Of patients with insulin-dependent diabetes, 65% are adherent and follow the recommendation on insulin use; 35% are non-adherent, skip insulin doses, and use lower doses than recommended (Lerman 2005).

First, nonconcordance may be about not respecting agreements. Medical problems that could be easily solved can be made worse by the lack of early medical intervention or follow-up appointments. Absence of respect for agreements can obstruct the continuation of care and treatment. Medical problems can worsen and lead to complications or other or more serious health problems, for example, in the case of anti-hypertensives, it can lead to unnecessary complications and premature mortality.

Second, nonconcordance may also be about the non-adherence to lifestyle and health advice, whereas it is in fact an important part of treatment. Lifestyle and health advice are among the most difficult to follow up of the recommendations for self-management, but not following lifestyle and health advice can have serious consequences. For example, monitoring the advice to move more intensively has a beneficial effect on the blood sugar levels and improves insulin health in the body.

Third, nonconcordance may be about not following aspects of the treatment. For example, the non-use of related resources such as support stockings to support the blood circulation and fluid build-up in the legs, or irregularly changing bandages.

Finally, nonconcordance may be about not following advice on preventive health activities, for example, dental care.

Non-adherence to the desired lifestyle and health advice is a persistent problem. This not only has implications for the health of the patient, but also for the effective use of available resources. If a patient is being treated, but the lifestyle and health advice are not followed, this is an inefficient use of health care. Not following the lifestyle and health advice can result in a worsening of the patient's health situation. It can also lead to complications and related illness or mortality. Self-management plays an important role in disease prevention. If patients with chronic health problems, such as heart problems and high blood pressure, do perform their self-management according to the lifestyle and health advice, this allows them to lead an active and productive life and this results in a decrease in morbidity. Health care professionals underestimate the extent of noncompliance; it can cause that patients to undergo unnecessary additional treatments and research, needless or unnecessarily prescribed medication, or receiving more health and lifestyle advice.

5.9.1 Nonconcordance: Characteristics

Nursing professionals overestimate the extent to which patients adhere to the "agreed" recommendations, opinions, instructions, and rules of conduct. They may have an incorrect image of patients who are noncompliant. Nursing professionals often assume that these are the less well-educated patients and patients with a lower socio-economic status, but this assumption is not supported by research. There is no known connection between adherence and age, gender, social form, education level, the number of persons in the household or social class. But there is a connection with a number of social and personal characteristics.

Nonconcordance: is social support a characteristic? In general, patients who are noncompliant often have less or no social support and they live more socially

isolated compared with patients who are compliant. For example, in patients with diabetes it was found that following recommendations was associated with higher levels of social support. Patients coming from less stable families follow opinions less often. Also, emotional instability or mental health problems have an impact on therapy infidelity. If the proposed medication regime is keeping in with the views of the patient, he is more likely to use the medicines in accordance with recommendations. It has also been shown that lifestyle and health opinions are not as well adhered to if the advice has a greater impact on the habits of the patient, or on certain aspects of his life.

Nonconcordance: is the complexity of the recommendation a characteristic? It is clear from studies that the less complicated the lifestyle or health advice is, the greater the degree of compliance. If the patient needs to carry out different lifestyle- and health advice at the same time, this could pose problems for him. The more recommendations, acts or medications that are prescribed, the more unfavorable the effect is on the patient's self-management. Self-management is also under pressure if it should be sustained over a long period of time. In addition to the number of recommendations and the length of the period, unpleasant side-effects of the recommendation or the side-effects of a medicine can have an adverse impact on self-management. This results in the patient not performing the lifestyle and health recommendations and the desired (health) behavior does not continue. In addition, it may turn out that the change of behavior is so complex, so time consuming or unpleasant, that the patient quits.

- **Self-regulation 3.** Patients with chronic health problems regulate their own drug use. Side-effects are a reason why the medication is not used in accordance with directions. But although patients say that the physical side-effects are the reason for this decision, it is the social side-effects that affect behavior. If the medication bothers the patient during his social activities, the patient is more likely to reduce drug use (Marks et al. 2005).

Nonconcordance: are psycho-social factors a characteristic? Each patient is an individual with private comments, experiences, and motives that influence behavior. In addition to the patient's knowledge, a multitude of psychosocial factors have an impact on the ability and willingness to follow lifestyle and health advice. Psychosocial factors that come into play are the views of the patient, his personal pros and cons associated with the follow-up of opinions, (lack of) social support from the environment, and his social and financial circumstances. In addition to psychosocial factors, symptoms the patient experiences play a role. Symptoms that are associated with a particular health problem may have different reactions in the patient.

Non-concordance: is the kind of health problem a characteristic, or symptoms related to the health problem? The self-management of the patient is also affected by previous experience of the patient and his expectations. Each patient has their own view on illness and health and health beliefs influence self-management. Health views can obstruct the performance of lifestyle and health advice, for example, if

the recommendation is seen to be inappropriate, or if the advice conflicts with the health beliefs of the patient. Also, recommendations can be at odds with socio-cultural and ethnic folk wisdom about illness and treatment. Another factor that may affect self-management, is the acceptance of (the severity of) the health problem. The influence of the social environment also plays a role.

There is a link between compliance in the sense of carrying out lifestyle and health advice and the severity of the health problem/visibility of the symptoms. Patients with asymptomatic chronic health problems are more frequently noncompliant. Patients are more likely to be compliant in a treatment with a favorable prognosis if the presence of symptoms is clearer and undesirable. If the prognosis is less favorable, this reduces patient compliance. For example, in patients with cancer who have a poor prognosis, patient compliance is low.

Nonconcordance: are social factors a characteristic? The patient may not follow health or lifestyle recommendations that conflict with his individual insights, and that are at odds with the views of people from his social environment. The family or peer group of the patient has a great influence on his desire and willingness to take on and implement recommendations. The attitude of the partner regarding the medication use is the most important explanatory factor for compliance. For example, the patient's compliance increases if family members help the patient remember to take medication and are generally helpful in this regard. This practical social support plays an important role in the patient's compliance. Also, compliance is higher in families with close ties and lower in families where there are conflicts. Successful self-management of the patient also improves the cohesion and functioning of his social network (Ryan 2009).

Non-concordance: is treatment a characteristic? Also, characteristics of the treatment affect the running of lifestyle and health advice. If the prescribed treatment is complex, this decreases the chance of the recommendations being fully followed. The patient may, in his attempts to handle the complex prescribed treatment, forget, ignore or become confused, and make other choices. If recommendations are comprehensive and complex, the chances of the patient remembering them are also smaller. For example, adherence decreases with an increase in the number of medicines that the patient has been prescribed. Compliance also decreases, up to about 50%, if the recommendation has to be sustained over a longer period of time, regardless of the health problem or the health care setting. It is assumed that therapy infidelity is linked to the absence of symptoms. This is not so much about the length of time that the adapted lifestyle should be sustained. The absence of symptoms demotivates the patient and if the patient does not experience symptoms, he lacks feedback on the usefulness of the medication, and his motivation to behave in a compliant manner is undermined.

There is evidence that if a patient has to follow a particular therapy long-term, and there is a regular follow-up by the nursing professional, the compliance increases. Inadequate monitoring of the patient by nursing professionals and the absence of continuity in care and treatment have an adverse effect on adherence to lifestyle and health advice. However, a long wait between the appointment and finally the consultation, the timing of the reference, the lack of individual

possibilities to make arrangements, or a lack of cooperation and consultation among health care services also have an unfavorable effect on lifestyle and health advice. Furthermore, the type of treatment affects the extent to which the patient is compliant. For example, some patients find inhalation medications unpleasant, and may thereby not be able to use the correct inhalation procedure. How the patient feels when following a specific procedure or treatment affects the degree of compliance.

Nonconcordance, is the context of healthcare a characteristic? The patient has the right to determine his own health. If this right is threatened, the patient responds to this by trying to restore the control and prevent him losing his freedom. If the treatment is intensive and complex, this threatens the patient's freedom and sense of control. Noncompliance can then be interpreted as offering resistance to medical dominance. The patient wants to restore self-control. Not all patients feel this as a strong need; some patients accept medical authority more easily than others. To gain control, the patient should assess whether he is able to perform the desired behavior. The patient must be convinced that the desired behavior is workable and feasible. If the patient feels in control, there is a chance that he will commit and change his behavior. If the patient does not feel in control, he has the tendency to stay in that situation. Kok et al. (1997) formulate it as follows: "a certain lack of grip on the own situation leads to control-increasing, active behavior, while a large lack of grip on that situation leads to passivity and helplessness. People who are helpless, can hardly be motivated to other behavior."

An increased sense of control emerges as it is explained to the patient and taught how he can deal specifically with problematic side-effects of research and treatment.

- **Managing identity by being compliant?** Compliance has a strong link with the need of a patient to have control over the health problem. A study of compliance in patients with COPD/asthma revealed that the daily use of the (curative and prophylactic) inhaler was related to how the patient saw himself and to the attitude of the patient in relation to the health problem. The extent to which the patient is compliant is not only entwined with the nature of the health problem, but also with the definition of the identity of the patient. Compliance is not just a way of managing the symptoms themselves, but is also a way of managing one's own identity (Marks et al. 2005).
- **Self-regulation 4.** Patients with chronic health problems appear not to follow standardized medical instructions, but to adapt them so that they meet their private, personal needs (Marks et al. 2005).

Nonconcordance: what about the nursing professional? Health professionals may experience resistance when responding to certain characteristics of nonconcordance such as psychosocial factors. They may have the opinion that to elaborate on certain aspects is not very practical, that it is time-consuming, but also, nursing professionals may be unaware of such factors.

The better you know as a nursing professional how to promote and support self-management, the more likely it is that the patient will be able to carry out the recommendations for self-management. An important starting point for nursing care is based on the patient and his needs, to promote the patient's self-management. Knowing what is best for the patient has affected negatively the relationship between the nursing professional and the patient for years. Long ago, we had authoritarian doctors who were supposed to lead the care and start treatment, and make all the decisions in the interests of the patient. This relationship has given way to a collaborative professional relationship in which a process of shared-decision making and working on concordance should be the focus for optimal self-management of the patient. The reason for this paradigm shift to patient-focused nursing care is located in the belief in patients and in nursing professionals, that for quality of care the patient should be the starting point. This means patient-centered care with ample attention being given to promoting self-management and patient education; this is now seen as the way to quality care (Bensing et al. 2000). By offering high-quality care, and promoting and supporting the patient's self-management, the nursing professional is able to optimize the patient's health and well-being.

▶ **Is targeted patient education needed?** There is a dramatic increase in the number of people with type 2 diabetes, maybe even an epidemic. The cornerstone of diabetes care is reconciling the patient's self-management with the professional treatment advice from the guidelines. But this may be complicated for patients. When it comes to self-management, a third to a half of these patients turned out to have inadequate blood sugar checks. As a result, macro- and microvascular complications such as coronary heart disease, stroke, blindness, and need for amputations, in addition to a reduced quality of life and emotional concerns. The complicated but highly desired self-management requires targeted patient education in people with type 2 diabetes.

5.10 Effects of Promoting Self-Management: Understanding and Remembering

Effects of promoting self-management – understanding and remembering:

- Amount of time, distance.
- Primacy and recency effect.
- Relevance for the patient, patient-focused.
- Selective perception.
- Anxiety.

An examined effect of promoting self-management is the extent to which the patient can remember and understand the lifestyle and health advice. The extent to which patients understand the information that has been processed in lifestyle- and health

advice varies between 10 and 50%. For example, understanding is how a patient understands the prognosis of his illness. How much the patient understands, is very much linked to the amount of time that is spent on providing the information. Physical distance between the patient and the nursing professional is also of importance. If this distance between the professional and the patient is small, then the patient understands and remembers better, for example, when the nursing professional is leaning forward and is making focused eye contact.

In addition to understanding information, information should be remembered by the patient. The extent to which the patient remembers varies between 40 and 80%, and this depends mainly on the amount of information. To recall lifestyle and health advice, the primacy or recency effect is important. What the professional says first or last is best remembered by the patient. On this basis, the professional should give the most important information first. For example, you should give the patient the bad news about an unfavorable prognosis at the beginning of the session. Or, at the end of the session, the core of your lifestyle or health advice should be repeated. If information is shocking for the patient, then no further information should be given. For example, when diagnosed with cancer, the patient will all be confuscated by the enormity of this news. If you continue to give further information after an unfavorable message, then the patient is not likely to process this information. This feeling of not being informed induces negative feelings in the patient, such as uncertainty and fear.

The patient remembers after the conversation, about half of the opinions, recommendations, statements or information. This is because too much information is given at one time. Anxiety, available (medical) knowledge, and the intelligence level of the patient all play a role in the ability to remember. For effective patient education, it is important that the nursing professional is comprehensible, chooses the right words, and provides sufficient relevant information. Nursing professionals should also take into account the patient's emotional and intellectual capacity. Setting a framework for every conversation may also give the patient something to get a handle on. For example: "First I'm going to explain to you that ... We'll discuss what treatment you can expect ... Then, we start with..." Information on paper can complement the oral communication forms of and remembering and understanding, but should never replace verbal communication. The excessive use of paper information can have the reverse effect (Falvo 2004).

The extent to which the patient remembers and understands lifestyle and health advice is influenced by selective perception. Selective perception means that the patient picks up only those parts from the message that are important to him. The patient selects parts of the message in line with his expectations, knowledge, and social standards. After this, the patient interprets the message and colors it with his own experiences and views. Information that is perceived as meaningless is quickly forgotten. A part of the information is forgotten after a short time, another part is remembered, but only if the long-term memory is activated by repetition. Information that is consistent with existing knowledge, is better remembered by the patient. It is important that the nursing professional knows how the information is experienced by the patient. The patient always needs time to gain an overview of the content of the message, by speaking with others, to reflect, and to consult other experts. As a

rule, there will not be a direct effect of the patient education. By coming back later in the session and inviting the patient to repeat the information, the nursing professional can play a supporting role and improve understanding and recall.

The extent to which the patient remembers and understands lifestyle and health advices is influenced by the extent to which it evokes fear. The effectiveness of promoting self-management is influenced by the patient's fear. Fearful patients have more trouble remembering education. On the other hand, if anxious patients are informed about the nature, cause, treatment options, and prognosis of the health problem, this may lead to a decrease in anxiety and in stress reduction. If patients can openly talk about their fears, they are less often included in a hospital? or is it: transferred to a hospital? Patients often express their fears indirectly, between the lines. In general, patients are ambivalent in expressing their fears: on the one hand, the patient wants to talk about his concerns, but on the other hand, he fears that his worst fears will be confirmed.

A common way of dealing with fear is denial. Denial can have a protective effect for the patient. Denial is undesirable if the patient does not search for medical care for an existing health problem, or if he does not follow certain recommendations that are important for his recovery. A second coping style is to block unpleasant thoughts and ideas. The patient tries not to think about it. For example, patients who are afraid of symptoms no longer register the degree to which they suffer from those symptoms. A third way of coping that can be used when dealing with fear is for the patient to retreat emotionally or physically. For example, the patient may refuse to learn how to deal with his stoma. A fourth coping mechanism is excessive emotional behavior, such as getting extremely angry or dependent. The patient may also blame himself or others to deal with his fear. In addition, the rationalization of anxiety, such as coming up with reasons for socially accepted behavior, or hiding the actual thoughts and feelings and behaving in the opposite way is yet another coping style a patient can use to handle fear.

Nursing professionals often respond to a patient's fear by giving information and explanations, instantly reassuring the patient or denying the patient's anxiety. Probably, nursing professionals often use reassurance too quickly, because they think they know what the patient is worried about, or they think that providing information is the best way to reassure someone. If you ignore the patient's fear by interrupting with a question, or by continuing with your assessment or questionnaire to downplay the fear, the patient is no less afraid. The patient gives greater expression to his anxiety. The nursing professional should explore the patient's anxiety, not proceed directly to reassurance, but pay attention to the specific needs of the patient and provide information if this is what the patient says he needs. It often turns out that patients talk openly about their concerns, when invited. For example, talking about the fear of more pain by starting to do exercises if the patient has osteoarthritis, or the fear of dependency on medication for sleep disorders or psychiatric health problems.

If the patient has received a very negative message, he will not take any more education. Therefore, it is wise to use the first session to convey this message to the patient, allow the patient to react to this and briefly to state what the treatment options

are. In a second interview, you can come back to the negative message. You then ask how the patient he has been coping with the problem, you explore his fears and needs, your offer the patient the opportunity to ask questions and connect with relevant information (causes, prognosis, treatment). In a third interview, the patient can indicate his choice of treatment and a start may be made with self-management. With less-threatening messages in the first conversation, you can focus on the provision of information (the patient knows what is going to happen in the investigation, treatment or care). The starting point is the education needs of the patient. Of course, you begin with how the patient is and also asking whether he is aware of the investigations and, for example, anesthesia that may be implemented. In other words: you prepare the patient to give permission. In a second interview, the focus is on whether the patient gives consent. You ask the patient if he has understood, invite him to tell this to your "back," and you look what questions the patient has. In this second interview, you discuss things such as results of investigations, examining whether the patient is in agreement, for example, with the form of anesthesia and with treatment. You give information about discomfort, pain, etc. The third conversation focuses on the experiences of the patient after he has undergone surgery and the attention is focused on self-management. You invite the patient to think about how to change his self-management behavior or how to deal with the health problem.

- **Self-regulation 5.** The attitude of the patient with chronic health problems facing the prescribed treatment is intertwined with his attitude to the health problem and with the attitude of the nursing professional. If the patient experiences too little evidence for his health problem or for the effectiveness of his medication, this encourages him to be noncompliant (Marks et al. 2005).
- **Self-management interventions focused on patients with COPD** were found to have improved their knowledge about the health problem, and these patients experienced an increase in their quality of life and the number of hospital (re) records had decreased (Coster and Norman 2009).
- Self-management interventions aimed at children with eczema and their parents showed a (weak) effect on reducing the severity of the eczema, but it improved the quality of life experienced by the parents of the children (Coster and Norman 2009).

5.11 Effects of Promoting Self-Management: Patients' Well-Being

Effects of promoting self-management – optimization of health and patients' well-being:

- Patient has more control over the conversation.
- Positive view of the patient's problems.

Successful self-management of the patient improves both the health of the patient and his well-being (Ryan 2009). It has a positive effect on the patient's health, if the patient has more and the nursing professional has less control over the conversation. If the nursing professional is shown to be involved affectively, this has a beneficial effect on the health of the patient. If the nursing professional provides more information when the patient shows (nonverbal) information searching behavior, this also has a positive effect. Promoting confidence, motivation, and a positive view of patients' (health) problems, all have a positive effect on the patient's health status and level of well-being.

Patients with mental health problems who have received little information, experience more symptoms than patients who say they are sufficiently informed. For example, less knowledgeable patients with depressive symptoms experienced more restrictions.

Health professionals tend to feel more sympathy for healthier patients. This means that nursing professionals communicate differently with less healthy patients. Also, healthier patients are more satisfied with the care and treatment. The discontent with less healthy patients is probably caused by the communicative behavior of the nursing professional. Another factor to consider is the fact that if someone is feeling ill, he feels rather irritated or behaves differently compared with healthy people.

- **Has noncompliance to do with fear?** From the point of view of the nursing professional, noncompliance may be seen as a stubborn process, but from the patient it may be experienced as a way of dealing with fear. In one study, it was found that in patients with arthritis, half the medical instructions were not followed. Patients with arthritis were found to experiment with dosage and timing, because they were afraid: afraid of side effects; afraid of dependence on drugs; afraid that the functioning of the medicines would decrease or that the use did not fit with their individual lifestyle; afraid that the use by others around them was seen as weakness; and afraid that the medicines did not fit with their own health views.
- **General overuse and general harm?** Patients tend to see a series of dangers in and are afraid of using drugs. A distinction may be made between general overuse and general harm. General overuse is the use of medication in general and parallels patients' idea that medications are prescribed too often by doctors. General harm is about harming medication and is patients' idea that medicines in general are a malicious poison. These factors are strongly linked to each other and have a great influence on how the patient handles his medication use (Marks et al. 2005).

5.12 Effects of Promoting Self-Management: Patient Participation

Effects of promoting self-management – patient participation:

- Promote self-management by increasing the patient's participation and increase (over time) the patients' responsibility for his lifestyle and (health) behavior.
- Patient empowerment, motivating the patient to take an active role and participate in self-management.
- Patient-centered communication style.
- The patient knows!

Despite the importance of good communication in the education and treatment process, the communication between the professional and the patient is not always effective. The switch from a professional-centered communication style (the professional knows best) to a patient-centered communication style can increase the effectiveness of self-management. A patient-centered communication style (the patient knows) is about improving the patient's level of participation. The patient's self-management may be promoted by increasing the participation level of the patient and increase (in the course of the education and treatment process) the patient's responsibility for his lifestyle and (health) behavior.

What is patient empowerment? Improving patient's participation in the education and treatment process gives patients the feeling that they are involved in their own health. The fact that the patient's participation improves over time is demonstrated by the increase in the patient's active role during the consultations. Motivating the patient to take an active role and participate in self-management is called patient empowerment. Focusing on patient empowerment, the nursing professional aims to increase the patient's autonomy and self–control, to improve understanding of his own health problem and improve self-management. The nursing professional starts by exploring the needs of the patient and then begins together with the patient the education and treatment process. The starting point is not the professionalism and experience of the nursing professional, but the health beliefs and needs of the patient. If a relationship based on cooperation with the patient is not built up by the nursing professional, the patient will not perform the lifestyle and health advice, the consultation will have no result, the medication will not be taken, etc (Marks et al. 2005).

The patient participates by asking questions and giving additional information and his own opinion. The patient who participates in the education and treatment

process more frequently understands the reasoning behind the nursing professional's lifestyle and health recommendations. The patient who participates in a verbally active way often experiences better results from the education and treatment process. Although studies have shown that active patient participation benefits the patient, it turns out, in practice, that the contribution of the patient to the consultation is little more than answering direct questions. This may be caused by the patients and healthcare professionals perceiving the self-questioning as inappropriately assertive behavior. Patients' questions take up only a small part of the entire communication and gives only a limited insight into how the patient feels during the consultation. The nursing professional should invite the patient to ask questions, but it is more effective to check if the patient has actually understood the education. If the patient writes down questions before the consultation, the questions have been asked effectively.

Patients with higher education, those with a higher income, and those who are older are more likely to participate more actively in the education and treatment process. These patients have often received more information than other patient groups. This probably means that nursing professionals use a different communication style in this group, and communicate more effectively. Younger, more highly educated patients also have a greater information needs, in addition to patients with serious, chronic health problems. Older, less well-educated patients have fewer information needs. For all patients, it is important that they feel that they are involved in the education and treatment process. This is certainly true for patients with (multiple) chronic health problems. These are more often elderly patients, the focus should be on involving them in the process, so that they feel supported in their self-management.

For the focused promotion of self-management, it is also important to involve family members or other people who are social support in the education and treatment process. In patient empowerment, the social relations desired by the patient should also play an active, participatory role. The members of the patient's social network of the patient can provide valuable support for the self-management of the patient. A lack of social support is associated with achieving the goals arising from care and treatment less well, and this applies even more to older patients. For patients with heart failure, it was shown that involving the family in intervention prevented readmissions after discharge (Paul 2008).

What is self-management support? Self-management support is an intervention in which a patient with chronic health problems is supported in choosing and adopting self-management behavior. A fundamental element of self-management support is that the patient–nursing professional relationship is a collaborative relationship. The patient's self-management behavior is the outcome of the intervention. The goals of self-management support are (changes in) the patient's attitude, skills, and behavior. Further core elements of self-management support are that the patient has knowledge about his health situation and know why self-management is important in dealing with his health problem. It is also very important for the patient to establish and embrace a self-management plan describing how he started with his self-management. This self-management plan is negotiated with the nursing professional

and an agreement exists. An essential element is that the patient must take an active role in decisions on the care treatment process. The patient should recognize the signs and symptoms of his health problem to manage them, and the impact it has on his physical health problem and on his emotional and social functioning. Finally, a core element of self-management support is that the patient has a lifestyle aimed at coping well with risk factors and at preventing and intervening early in the event of health risks. The patient should have easy access to health care facilities that are able to support and promote self-management (McGowan 2012).

The pitfall of strictly implementing patient participation in the education and treatment process, is that the patient is "restyled" (from playing a passive role) to being an active self-manager. The patient would then evaluate his self-management, level of satisfaction, but also his limitations and pain, which would threaten the responsibility for transferring. Thus, conducting patient participation strictly is undesirable and backfires on both the patient and on the cooperative relationship with the nursing professional.

You will see as a nursing professional that patient satisfaction increases with the patient's increased participation. Patient satisfaction is an important outcome of promoting self-management. By increasing patient participation, the patient experiences more control over his health problem and remembers and implements his personal lifestyle and health advice in a better way. By increasing participation, the patient also plays a more active role in the education and treatment process (Harrington et al. 2003). By shifting the paternalistic relationships to a situation in which the patient is autonomous and actively participates, the culture and atmosphere have changed in health care. Another paradigm shift is that the patient is no longer seen as the one receiving the education, but as the one who is responsible for his own health and recovery process and making independent decisions. The patient has become a partner in the education and treatment process.

▶ **True or not true?** Does active participation of the patient in the education and treatment process require extra time of you as a nursing professional and as a result, do all nursing consultations last longer?

The assumption that the active participation of the patient in the consultation will prolong the duration appears incorrect.

5.13 Effects of Promoting Self-Management: Shared Decision-Making

Shared decision-making is an interpersonal process in which the health care provider and the patient work together to come to decisions related to the health of the patient. Shared decision-making is always patient-specific and builds on the experience of the nursing professional (Legare and Witteman 2013). Shared decision-making is not restricted to making decisions that are related to care and treatment, but would have to cover the entire care–treatment process, in addition to the patient–nursing professional relationship. According to Matthias and Salyers (2013), it

requires effective communicative behavior, clarifying the patient's perspective, and showing empathy. This also includes shared decision-making on what is necessary to build a good relationship with the patient based on cooperation for the duration of the entire care–treatment process. The patient satisfaction and acceptance of care and treatment, are associated with shared decision-making, empathy, satisfaction with the decision taken, and team interaction. This means that the patient is experiencing a higher degree of satisfaction and accepts care and treatment:

- If the health care provider has come up with a positive shared decision-making process
- If the patient experiences the health care provider being empathetic
- If the patient agrees with the decision that has been taken
- If the caregivers in the team all give the same message (Quaschning et al. 2013).

The fact that team interaction plays an important role in shared decision-making is striking. Team interaction has a positive effect on patient satisfaction, on acceptance of the care and treatment, and on compliance. This means that an interprofessional approach to shared decision-making can support the patient in decision-making.

How should nursing professionals facilitate and give support in making decisions? The nursing professional should outline a realistic picture of the consequences for the patient if the lifestyle or health advice is followed. The arguments for not following the lifestyle or health advice should have to be based on facts, and not on promises. Nursing professionals can tend to stir up the fear to motivate the patient to the lifestyle or health advice. But as the patient's fear increases, the chance of following up the lifestyle or health advice decreases. As the nursing professional, the consequences of not following the lifestyle or health advice is blown out of proportion, or if they are based on more emotional than on factual grounds, the patient will take these arguments less seriously. In addition to taking the arguments less seriously, raising the anxiety level leads to denial in the patient. The patient denies that there is a health threat. The patient denies the health threat because of self-protection. Under these circumstances, the patient ignores health advice rather than recognizing that there is a serious health problem.

In addition to sketching a realistic view, the nursing professional should make the patient aware that excuses and rationalizations interfere with following instructions. The patient should come to understand that excuses and ignoring the health threat is not a good way to deal with reality. Nursing professionals should try to refute the excuses and rationalizations with facts. Not by giving information, but the nursing professional should enter in discussion with the patient about the facts.

Finally, the nursing professional should prepare the patient in a realistic manner regarding the effects that he can expect if he embraces the lifestyle or health advice. She should look at the (positive and negative) effects of the advice, and discuss these with the patient. This involves both the positive and negative effects of the lifestyle or health advice if the patient follows this or not (Falvo 2004).

Should the nursing professional discuss the adverse effects of the lifestyle or health advice with the patient? Nursing professionals are often reluctant to discuss

the side effects of the lifestyle or health advice, because they fear that this will affect negatively the patient's motivation. Nursing professionals fear that the patient will be less motivated to follow the lifestyle or health advice, or they think knowledge about side effects increase the chances that patients will experience these side effects. Not talking about them, however, often has the opposite effect. It is an incorrect assumption that the patient who is informed about these side effects will experience them more often. Patients who are faced with unexpected side effects tend not to follow the lifestyle and health advice. If the patient knows that these side effects are common and knows how he can deal with them, it is more likely that he will continue to implement the recommendations.

Patients take better decisions if they tell the professional what they have decided. This is because many people feel uncomfortable if they go back on their word. Invite the patient to speak out by asking, for example, "now we agree that ..., can you tell me what exactly you're going to do when you are at home?" Finally, the drawing up of a contract is an effective way of capturing the patient's decision. Drawing up a contract is a positive way of focusing on the future. A contract leads the attention away from past mistakes or from difficulties that a patient has experienced when carrying out the lifestyle or health advice. A contract also leads to the desired behavior being described by the patient in his own words. Create a specific contract and state clearly together what the patient should do. Entering into a contract requires a series of successive contacts with the same nursing professional.

▶ **Does patient participation lead to therapy loyalty?** If the patient is participating and the patient plays an active role in the contact with the nursing professional, this leads to better compliance, and this in turn leads to a higher quality of life (and lower costs) (Delnoij 2012).

5.14 Effects of Promoting Self-Management: Improved Self-Management

Effects of promoting self-management – improved self-management:

- Decision-making related to the health problem.
- Performing health behaviors.
- Dealing with side effects and symptoms.
- Improving well-being.
- Improving self-regulating behavior.
- Coping better with the health problem.
- Increasing satisfaction with the relationship with the professional.
- Better access to health care facilities.
- Reduced use of health care facilities.
- Strengthening the support group.

The self-management of patients with chronic health problems comprises various, often complex, behaviors with a series of shared behaviors that must be sustained over a long period. Between chronic patients we see differences in what the (shared) behaviors question with regard to commitment, effort and stress. The patient's self-management is typified by retaining a multitude of complex (part) behaviors when dealing with his health problem. Self-management is not a list of activities that a patient should carry out, but a varying response to constantly changing situations. In a self-management intervention for patients with rheumatic diseases, they were taught how to manage their own health problems. The aim was for the patients to gain maximum control over the rheumatic symptoms and experience an improved quality of life. The patients learned the skills necessary for self-management, such as setting goals, creating a plan, and learning problem-solving skills. In the self-management training, the patients were taught to have confidence in their own skills and knowledge, and above all control over their health problem. The effect of intervention was that improved self-management in patients with rheumatic diseases led to less pain. In addition to this favorable health outcome, self-management training improved the quality of life for patients with chronic health problems (Bennett et al. 2004). In a self-management intervention for patients with diabetes, diabetes control and eating habits were shown to improve. This intervention led to an increase in the self-management skills of patients with diabetes, and in satisfaction with regard to care and treatment.

What are the direct and indirect effects of promoting self-management? A direct effect of self-management is that the patient's decision-making process is improved and he is better able to handle health problem-related decisions. We also see as a direct effect that health behaviors are better implemented and that the patient can deal better with side effects and symptoms. Important indirect effects of self-management are improved mental well-being, an improvement in self-regulatory behavior of the patient and an improvement in dealing with the health problem. Indirect effects of self-management are an increased satisfaction with the relationship with the professional. Another effect is that the patient has better access to health care facilities and the use of facilities has reduced. An indirect effect is the further strengthening of the support group, by family members having better skills and better family care (Wallerstein 2006).

- **Self-management and patients with bipolar diseases**. Reviews of self-management interventions aimed at patients with bipolar health problems showed that these are effective in monitoring the early signals. The worsening of symptoms, relapses, and re-recordings were postponed. However, symptoms did not decrease, and medication intake did not improve (Coster and Norman 2009).

5.15 Intervention Mapping for the Development of Self-Management Interventions

Intervention mapping is a protocol for the development of interventions to promote patient self-management (Bartholomew et al. 2011, 2016; Kok and Schaalma 2004, Schaalma and Kok 2009). With intervention mapping you develop, step by step, on

the basis of evidence, a health intervention to optimize self-management targeting to a specific patient group (see Chap. 4, starting from Sect. 4.3).

Intervention mapping step 1, starts by exploring the health problem. Analyzing the health problem gives you as a nursing professional an insight into the importance and into the experienced quality of life. Dealing with a health problem, the patient needs specific self-management behavior and specific self-management skills. Your aim as a nursing professional is to improve self-management, and for this you want to have an insight into the self-management behavior of this patient group and analyze what supports or impedes the self-management behavior. You analyze what reasons there are for the patients to focus on a certain way of behaving and what the reasons are for whether or not he is able to manage this health problem. In intervention mapping step 2, the performance objectives are determined, these are the goals aimed at improving self-management. Also in this step, it is specified what changes are necessary to achieve the performance objectives. In intervention mapping step 3, effective intervention methods are selected, with the objective that changes (in knowledge, attitudes, skills, and behavior) can be put in motion and improve the patient's self-management. In the fourth step, you design and test the self-management intervention by combining the selected intervention methods and building the self-management intervention. In the fifth step, you develop an adoption and deployment plan for the implementation of the self-management intervention. In the sixth step, finally, you develop an evaluation plan.

5.15.1 Intervention Mapping, Step 1: Assessing the Health Problem

In intervention mapping step 1, you explore whether patient education can contribute to improving the patient's self-management. The assumption here is that if the patient improves his self-management, when he is better able to deal with his health problem, and is better able to take his health in his own hands, this has a beneficial effect on his well-being and quality of life. Step 1 of intervention mapping answers the questions: what is the health problem and what is the role of self-management for the patient? What is the relationship between the health problem and the patient's self-management behavior? You make an inventory of the behaviors that cause, aggravate or maintain the health problem, because multiple behaviors often play a role. What is the relationship between the health problem and the environment? Which social cognitive determinants determine the intention and self-management behavior of the patient? Social-cognitive determinants are the underlying (to argue) reasons for people to behave in a certain way. Social-cognitive determinants of the patient's self-management behavior are complicated because this behavior can consist of multiple (part) behaviors and the patient does not always know he is behaving in a risky manner.

Improving self-management is about promoting lifestyle and (health) behavior that is desirable for dealing with the health problem. For this reason, the accent should be on reducing health-impairing behaviors and optimizing health-improved behavior. If we want to improve self-management and if we want to motivate the

patient to get started with self-management, it is important that we understand the behaviors that play a role. The theory of planned behavior makes it clear through which social–cognitive determinants the intention and the self-management behavior of patients are affected. Using the theory of planned behavior, we better understand the factors that explain the wanted and unwanted self-management behavior. What factors reward unwanted self-management behavior? What factors hinder the desired self-management behavior? (for a closer insight into intervention mapping step 1, see Chap.4, Sects. 4.4 and 4.5).

5.15.2 Intervention Mapping, Step 2: Performance and Change Objectives to Improve Self-Management

In intervention mapping step 2 we should answer the questions: what is the end goal of the self-management intervention? With the end goal, you describe from the specific health problem, the desired self-management behavior of the patient. What are the performance objectives of the self-management intervention? The performance objectives are the intended effects of the self-management intervention. With the performance objectives, you state what the patients have to do to perform the desired self-management behavior. In five to seven performance objectives, you describe how the patient is going to achieve the desired self-management behavior. Finally, you determine the change objectives in intervention mapping step 2. Change objectives state the changes that are required to attain the performance objectives in the self-management intervention. In the change objectives, you describe the changes that are needed in the social–cognitive determinants, so that the patient can perform the desired self-management behavior(s). Thus, you have performance objectives, described in the matrix, and each performance objective consists of several change objectives directed at the social–cognitive determinants (for a closer insight into intervention mapping step 2, see Chap. 4, Sect. 4.6).

5.15.3 Intervention Mapping, Step 3: Methods and Theories to Improve Self-Management

In intervention mapping step 3, based on a literature search, you select methods and theories that have been shown to change social–cognitive determinants, intention, and self-management behavior. When you select those methods and theories that have been shown to be effective and use these in the nursing professional self-management intervention, it is more likely that the intervention will result in changes in self-management behavior and improved well-being and quality of life for the patient. Useful methods for promoting patient self-management that have proved to be suitable in intervention design are: risk perception; decisional balance or weighing up pros and cons; increasing resilience to social influences and search for social support, action planning, and coping planning (for a closer insight into intervention mapping step 3, see Chap. 4, Sect. 4.7).

5.15.4 Intervention Mapping, Step 3: Methods and the Patient's Phase of Life

In developing a self-management intervention, you should pay attention to the patient's (group's) phase of life. As the nursing professional understands the characteristics of the patient's (group's) phase of life, you may take this into account when designing the self-management intervention. Each life phase has specific problems, in addition to the issues that the patient is experiencing as a result of his health problem. In every life phase, patients respond differently to disease, to treatment and to the expected improvements in self-management. If people get sick, they experience a certain amount of stress. The response of a patient's disease and the type of stress that he will experience may vary according to the phase of life. Also, the education needs of the patient may vary, depending on the life stage. If you think about the phase of life as a nursing professional, you better anticipate the reactions of the patient with a health problem. You can also better tailor the intervention to suit to the individual needs of the patient and identify aspects of self-management that are related to the specific life phase (Falvo 2004).

Throughout his life, the patient gains experiences. Experiences affect the patient, his attitude, health beliefs, his skills, and (health) behavior. If you as a nursing professional have knowledge of the changes occurring in the different stages of life, improving self-management can become more effective. Specific topics can be more easily identified, together with specific recommendations on the health problem, the psycho-social status, and self-management of the patient. The focus for improving self-management should be on the current needs of the patient. As the biggest problem for the older patient is to preserve independence, this should be the first need to be addressed. As the biggest problem of a child with COPD is to play together with friends outside, this should be an important need to address.

Focusing on elderly patients with a chronic health problem, the relationship between the health problem and the phase of life is important. For elderly patients, the changes due to aging can be important and may play a role in self-management. Aging can have an impact on the individual capabilities of the patient with a chronic health problem to continue to function and to preserve independence. As a result, the education needs of the patient increase. Self-management is then about learning to deal with the changes that are associated with having a chronic health problem, in the context of changes that are part of a normal aging process. Self-management is also about preventing any (further) restrictions that affect functions and independence and the prevention of complications. Both prevention of chronic or acute conditions, if self-management aimed at maximizing the functional independence, can provide. Older people often rate their own health, independently of any chronic health problem, as well. For elderly patients, this positive assessment of their own health is especially related to their possibilities for activities and their degree of independence. The positive assessment of health is less related to the (chronic) health problem or its treatment. In promoting and supporting the self-management of older (chronic) patients, it is important to emphasize the strengths of the patient and to strengthen the existing positive coping response. To promote the self-management of older (chronic) patients, the method of coping planning is important.

5.15.5 Intervention Mapping, Step 4: Design of Self-Management Intervention

In step 4 of intervention mapping, you design the self-management intervention, using the methods and theories selected from the literature as building blocks. The goal is to develop a specific self-management intervention. The goals you want to achieve with the self-management intervention are changes in social–cognitive determinants, the intention, and the self-management behavior of the patient. Patient education is effective as the nursing professional manages to motivate patients toward better self-management behavior. This motivation of patients to better, improved self-management, always means that the patient himself makes his own choices and is aware of the choice he is making. Improving the motivation of the patient, self-management behavior can be a voluntary behavioral change. The self-management intervention is effective if the patient has changed and improved his self-management behavior and a stabilization of the self-management behavior has occurred. So as the self-management of the patient has improved, in addition to his well-being and quality of life (for a closer insight into intervention mapping step 4, see Chap. 4, Sect. 4.8).

5.16 Intervention Mapping, Step 4: Model Supporting Patients' Self-Management

In intervention mapping step 4, the intervention is developed and tested. In addition to methods and theories to help build an intervention, there are also models based on methods and theories. The model for supporting patient self-management offers nursing professionals concrete handles for how they can motivate a patient to improve his self-management, matched to the health problem of the patient. The description below corresponds with the training Model Supporting patient self-management (Sect. 5.28) (Sassen 2012).

How can the patient's self-management be improved? In the model for supporting patient self-management, you start with intake and assessment, just as you usually do with each new patient. When running the self-management intervention, you adhere closely to the directives in the specific guideline, for example, the guideline for cardiovascular risk management. The motivation process starts immediately after the intake with risk perception, involving why self-management is important for the patient himself. For example, for a patient with cardiovascular risk factors, why is increasing your movement behavior important? Then you proceed with attitudinal change and with the question, does the patient wants to start improving his self-management (or not)? For example, in case of a patient with cardiovascular risk factors – whether or not the patient "wants to (go) move". In follow-up consultations with the patient, you also do what you usually do in your consultations with a patient. In a subsequent consultation, you proceed next to attitudinal change, by looking at the social influence of other people close to the patient and discussing the practical skills needed to improve the patient's self-management. After this, you

proceed to behavioral change (for example, the self-management "move") by making an action plan, followed by a focus on maintaining the self-management behavior by making a coping plan directed at behavioral retention (for example, maintaining the self-management "keep moving"). You go through a process in which you, together with the patient, motivate and support the patient in improving his self-management. The best way to handle the model of supporting patient self-management is by using open-ended questions; in every step throughout the model, open-ended questions are the way to improve and support the patient in changing health behavior and in increasing well-being and quality of life.

5.16.1 Model Supporting Patient Self-Management: Intake and Risk Perception

In the model supporting patient self-management, the content start in step 1 with carrying out your nursing assessment or intake and implementation of the risk perception. If a patient has sufficient knowledge about the relationship between the health problem and health behavior (for example, physical activity and fitness) and makes a good estimate of the personal risk (risk perception), the chance of success is greater. Risk perception is the estimate a person makes of the risk for a health problem. In general, the patient underestimates his own individual risk and he thinks that only others run the risk of the health problem.

In the steps supporting patient self-management step 1, intake and risk perception, the goal is that you do the intake, obtain an image of the health problem and the patient's health situation, and explore the desired self-management. A goal is also that the patient understands the relationship between the health problem and the desired self-management, for example, that he understands the link between the risk factors and the desired behavior change to "move more." The patient should make a personal risk assessment that is acceptable to him. If a patient has sufficient knowledge about the relationship between the health problem and self-management behavior and makes a good estimate of the personal risk, the chance of the intervention being successful is greater. In general, the patient underestimates his own individual risk. As a rule, increasing knowledge never leads to behavioral change and is in itself insufficient to promote self-management. Self-management opinions are not generally given, but follow your own routine. To increase the patient's involvement, use open questions, giving the patient the feeling that he is a valuable interlocutor and you are inviting him to participate.

- Training 1: model supporting patient self-management – risk perception
- "In this conversation, it is important that I get to know you and that you know what you can expect from me. We will start with the intake, then I would like to comment on your health problem in more detail."
- Ask your questions.
- "You have come here (with reference, etc.). Can you tell me what you already know about (health problem)?" (patient tells).

- Result: "it is true what you are saying (about the health problem), namely that ... (repeat what the patient said about the health problem). Do you think you have a great chance to run on … (the health problem)?"
- "I understand that it is not pleasant to hear, but there is cause for concern if (you do not adjust your lifestyle/do not start increasing your movement behavior). This does not have to be an insurmountable problem, I can help you to change your (lifestyle)."

5.16.2 Model Supporting Patient Self-Management: Attitudinal Change

In the model supporting patient self-management step 2, the emphasis is on attitudes and changing attitudes, so that a patient can think about wanting to improve his self-management. If a patient has positive expectations about the outcomes of the improvement in self-management (positive outcome expectations), there is a greater chance of the intervention succeeding. To change attitudes, it is essential that the patient obtains a picture of the advantages and the disadvantages in both the short and the long term. Try to connect to the existing views of the patient. What does an improvement in self-management yield for the patient in the short (and long) term? For example, self-management of the process of moving more – what are the disadvantages for the patient in the short (and long) term? Each patient has their own considerations on whether or not to behave according to the desired self-management behavior. Health considerations are rarely the most important for the patient.

In the steps supporting patient self-management step 2, the goal is that the patient can appoint the advantages and disadvantages in both the short and the long term, and that the benefits are more important than the disadvantages. By using open-ended questions, you try to disclose together with the patient the pros and cons of self-management behavior, in both the short and the long term. To change his attitude, the patient has to want to change. To this end, you discuss with the patient the advantages and disadvantages; you mirror reality by discussing the disadvantages, and together with the patient, you look for rewards. You work out together with the patient that the benefits related to the behavior (for example, exercising, taking medication, getting more rest) are experienced as more important than the disadvantages related to behavior, both in the short and the long term. Also, discuss with the patient the "I want-to-scale": a scale with ten steps running from "I do not want to change/improve my self-management or health behavior (step 1) to "I do want to change/improve my self-management or health behavior" (step 10). For example, I do not want to move more (step 1) to I do want to move more (step 10).

Invite the patient to write down what for him the benefits are of changing/improving self-management or health behavior, in the short term and in the long term. Ask the patient to write down what distracts him from changing/improving self-management or health behavior, in the short and long term. For example, the patient gives an overview of the short- and long-term advantages and disadvantages of starting exercising.

- Training 2: model supporting patient self-management – attitudinal change
- Start with your introduction: "how are you?"
- What are we going to do in this consult: "In this conversation we look briefly back at our previous conversation. After this, we are going to discuss what benefits you expect if you have changed your behavior, and about which disadvantages you expect, if you have changed your behavior. Is it okay with you if we discuss this today?"
- "In our previous conversation we talked about the link between your (health problem) and a (healthier lifestyle) ... Can you tell me in your own words what this means to you? Now I would like to talk about how you can change (your self-management or health behavior). Changing behavior is usually not easy."
- "If you think you want to change (your behavior, lifestyle), I can help you with this. So, it is not something that you have to do all by yourself. We also know from other patients that a helping hand can be pleasant. At the end of the conversation I will come back to this. Now I would like to discuss what benefits you can achieve, when you change your behavior. What are for you the advantages to changing your behavior? And what are the disadvantages for you? Is this okay for you?"
- Use the matrix advantages and disadvantages and the want scale (see Sect. 5.28)
- Start with filling out the advantages and disadvantages-matrix. Show this matrix to the patient, and ask: "If you changed your behavior, what would be an advantage in the long run? Can you also think of some short-term benefits?". And for the disadvantages: "If you changed your behavior, what would be a disadvantage in the long run? Can you also think of some short-term disadvantages?"
- It is necessary to discuss the advantages and disadvantages with the patient by asking open-ended questions. Fill out the schedule together, or invite the patient to write.
- "Now that we have completed this schedule, and we view it again, are the benefits or the disadvantages especially important?"
- If the patient especially sees the disadvantages: "We will let this schedule now rest. It might be an idea if you looked at the schedule at home again and think about the pros and cons. The next time we meet, we will talk about where we are now. It is important that you do not think that changing your behavior of lifestyle (for example more movement) does not fit into your life or is not for you. Many patients wonder if another lifestyle really suits them."
- If the patient especially sees the benefits: "That's good to hear, and indeed you mention ... Because you see the benefits in particular, I tend to infer that you want to change (your behavior). Is this correct? Or is it too early to draw this conclusion?" Invite the patient to say it in his own words, the pros of changing self-management or health behavior, in addition to the cons.

- Next, ask the patient to indicate on the scale to what extent he is prepared to change his behavior or change his lifestyle. For example, ask him to indicate that he will start moving: "can you specify on a scale of 1–10 if you want to change your (behavior, lifestyle, for example, movement behavior)?"
- The score on this scale displays whether the patient really wants to change his behavior or lifestyle. If the score is low (0–5), then the following consultation will be devoted to attitude change. If the score is higher, you will progress and continue with the next step: dealing with the social environment.
- End the conversation. Give a brief summary.

5.16.3 Model Supporting Patient Self-Management: Resisting Social Pressure and Seeking Social Support

In the steps supporting patient self-management step 3, the emphasis is on handling social influence by resisting social pressure and seeking social support. If a patient is capable to seek social support or strengthen social support, and is able to resist social pressure, the greater the chances of succeeding in changing his intentions and self-management behavior. Which people around the patient, provide the patient with a helping hand? Which people, work against the patient? If people are uncertain about their own views, they tend to compare them with the views of people with whom they can identify. A positive or negative influence from the social environment is the consequence.

Together with the patient, you work out that the patient is able to recognize resistors from the social environment and is more resilient with regard to handling these difficult social influences. Together with the patient, you also help him to seek social support, or obtain better, more specific social support, for example, seeking support for movement behavior by moving with a friend. The goal is for the patient to recognize resistors in his social environment, and be able to handle and oppose social pressure. The patient would also have to understand the importance of social support, and be able to seek specific social support (for the self-management change). Deal with the social environment includes being able to deal with social influences by increasing resistance to handle social pressure, and to seek support. The matrix of social influences can be used (see Sect. 5.28).

Making a schedule of social influences can help the patient learn to deal with social influences from the environment.

- Training 3: Model supporting patient self-management – resisting social pressure and seeking social support
- You start with your introduction: "How are you? Let's start with looking back on the previous conversation: "In the previous conversation we had

together, we looked at the advantages and disadvantages of changing self-management or health behavior. We will look back at these pros and cons of a behavioral change. In this talk, I would also like to discuss what the people around you are saying if you are going to (change your behavior, lifestyle, for example, move more). And if there are people in the close area around you, who can support you. From experience, I know that the people at home might not like to see you change your behavior or lifestyle. We will begin by taking a look at the schedule with pros and cons, okay?"

- The following two options can appear:
- Disadvantages of changing the self-management behavior shown to be more important: talk again about pros and cons. With this, you go back to step 2 – attitudinal change.
- Benefits of changing the self-management behavior shown to be more important: go back to the "I want scale" and check if the score has changed compared with the last consultation. The score on this scale displays whether the patient really wants to change his behavior. "Can you specify on a scale of 1–10 if you want to change your (behavior)?"
- Then, explore the social influence from the near surroundings of the patient by asking open questions. "Have you already spoken with others about (the new behavior, other lifestyle, for example, to move more)?". (Patient gives reaction.) "Let's check if there are other people, with whom you have a good relationship, who find that you (should move more). What are their reactions?"
- Discuss together with the patient the schedule for assessing the social influence: who provides support, when, and how? Who applies social pressure, when, and how? Continue until the review is complete.
- "When I go to read this review, I note that: for social support, you can build on ... and that the social support would be improved if ... (opinion of the patient). And I note that you expect social pressure from ... With social pressure can be handled by ... (opinion of the patient).
- If the patient does not know any solutions to improving social support or dealing with social pressure, a brief talk about learning new social skills may be applicable. You can start with: "Can you give an example of a situation in which you expect to experience social pressure? What can you possibly do to handle the negative influence, but that would enable you to (new behavior/other lifestyle/move more?". Do you think this (strategy to handle social pressure) helps?". And: can you think of a person who is able to support you, when you start to … (new behavior/other lifestyle/move more)?"
- Join the conversation with a brief summary, and specify that you will come back to the above discussion. Emphasize that it is important for the patient to attend the next visit.

5.16.4 Model Supporting Patient Self-Management: Perceived Behavioral Control and Self-Efficacy

In the model supporting patient self-management step 4, the next emphasis is on perceived behavioral control and self-efficacy. If a patient learns (further) skills step by step, the chance of success in improving his self-management and changing his (health) behavior is greater. This step-by-step learning of (mostly practical) skills is called guided practice. The patient should experience that he is able to take his medication, increase his movement behavior, for example, and optimize his confidence in his own skills. The patient must feel that he is able to improve or change his behavior, experiencing an increased confidence in his own abilities. This perceived behavioral control or self-efficacy is necessary for the patient's justification process for to sustaining behavior. This requires the patient to gradually acquire the skills necessary to perform the (intake/movement) behavior. Practice makes perfect; observing others can be helpful. You work out what necessary practical or technological skills the patient needs to acquire. The goal is for the patient to have the necessary skills for self-management. Increasing perceived behavioral control and self-efficacy is important to be able to learn and implement (practical or technical) skills.

- Training 4: model supporting patient self-management – perceived behavioral control and self-efficacy
- Introduction: "how are you doing?" What are we going to do today? In this conversation, we discuss the skills needed to perform (the desired behavior, or lifestyle). It is not that you should be able to implement it immediately. But you will be (skilled) in steps. "Tell me, what seems easy?" And later in the interview: "What seems harder?"
- Use the matrix of self-efficacy and skills (see Sect. 5.28)
- Make an inventory of how the patient looks at the skills to be taught. Put the skills in a schema and fill in the different steps for each skill the patient has to learn.
- Example of a possible second consultation: introduction with the question "What are we going to do in this consultation?" In this conversation, we look briefly back at our previous conversation. We will then start to learn (skill, sub-skill). Here we go now. Do you agree?"

5.16.5 Model Supporting Patient Self-Management: Planning Behavior Change

In the model supporting patient self-management step 5, the next emphasis is on planning the behavior or lifestyle change. If patients formulate their goals themselves, the patient is the "owner" of the goals. We call this action-planning. If a patient is preparing (preparatory behavior) to carry out these goals, the chance of success is greater. To change the patient's intention, his planning to start the behavior involves the formulation of targets with which the patient indicates planning

improved self-management behavior (for example, start exercising). Planning a behavior change is always about: what are you going to do, when, and how often? In addition, planning a behavior change is about preparing to carry it out. The patient should be prepared to carry out his purpose by imagining that he is implementing the self-management or (health) behavior (for example, starting to be physically active). Preparing the behavior change is stating: if ..., then I .... The goal is that the patient really intends to change his behavior, that is, he has a positive intention to move more, has planned the behavior and he is prepared.

- Training 5: model supporting patient self-management – planning behavior change
- Introduction and what are we going to do in this consultation? "In this talk we will discuss your goals, the goals you want achieve to improve your self-management: we are going to discuss what your goals are, and this means we can discuss what can you do? When? How often?"
- Use the action plan – goals – what, when, how often (see Sect. 5.28).
- And what is needed to prepare? "It is important that these goals properly fit what you want. These goals are really your personal goals to help you get started."
- Describe the goals together with the help of the format.

5.16.6 Model Supporting Patient Self-Management: Behavior Change and Handling Barriers

In the model supporting patient self-management step 6, the next emphasis is on changing the behavior and on handling the barriers that may distract a patient from changing his behavior. If a patient recognizes barriers and diminishes barriers, and is provided with feedback, the patient may proceed and start to change his behavior. Planning a behavior change, or planning to improve self-management, can be stopped by barriers. Barriers are all kinds of unforeseen circumstances that occur (even though there is a plan); the patient is not going to implement the new or improved behavior.

For behavior change, it is about recognizing and handling barriers, and giving positive feedback. Together with the patient, you make an inventory of barriers by carrying out a review, and you describe for each barrier ways of coping with it. You work out that the patient bypasses barriers and that the patient learns to deal with barriers that obstruct a (further) behavioral change.

- Training 6: model supporting patient self-management – behavior change and handling barriers
- Introduction: "If you look back on the past period, did you manage to sustain the behavior, or lifestyle change (for example, to move)? I understand that the (new behavior) pleases you because ... (call positive factors). In addition to these positive factors, most people also encounter some negative factors. Do you encounter any negative factors? Let's explore these by discussion (search together for the barriers to the new

behavior). In this talk, I want to discuss these difficult circumstances that cause you to fail sometimes, even though you are planning to move (or carry out some other new lifestyle behavior), this sometimes fails. What is currently an important barrier? If we have a look at this (barrier 1), what would help you (to handle the situation)?"

- Use the coping plan –how to handle barriers (see Sect. 5.28).
- List the barriers with open questions. List possible solutions for each barrier: "which solution seems easy?"
- Write down each barrier in a schedule together with ways to cope with it.
- End the conversation with a summary. Make an appointment on how to deal with barriers.
- It is important to prepare the patient for relapse: "In the next period, it is possible that you might have what experts call a relapse. You will notice that you stopped the lifestyle change behavior of, for example, no longer moving. Actually, this happens to a lot of people when they are trying to change their behavior or lifestyle. It is important not to lose heart, and it is important to arrange support. What can support you (support looking for/... call or mail to/from the practice, etc.)?"

5.16.7 Model Supporting Patient Self-Management: Sustaining Behavior Change

In the model Supporting patient self-management step 7, the next content is sustaining behavior change. If a patient devises his own solutions to relapse (coping planning), these can be worked on further, strengthening the behavioral change. This includes sustaining the new behavior. Prepare the patient for a fall back into old routines. Relapse happens to everyone. Search together with the patient to find ways to tackle it, for example, picking up the thread again the next day. It requires a lot of time for the patient to build the desired behavior into his daily activities.

To sustain behavior change, it is important for the patient to continue to implement the behavior, and to handle relapse. You work out that the patient will learn new behaviors and ways of coping with relapse, until behavioral maintenance has been reached. The patient scores on a scale of 1–10 the extent to which the new behavior has become a habit. You ask the patient in the penultimate consultation that you have a schedule for him to fill in with relapse moments and possible plans for solutions, and with elements of the behavior that have become routine and plans to stick to those routines. The goal is that the patient sustains behavior change and can handle relapse back into undesirable behavior.

- Training 7: Model supporting patient self-management – sustaining behavior change
- Introduction: "If I (professional) look back to the times when I have been sitting here with you, then I think I may conclude that you have achieved a lot. You have been moving (or other new behavior) and ... (give positive feedback). Are you happy about this?"

- Let the patient indicate on the scale the extent to which the new behavior has become a habit for him.
- "Now, it is often the case that, over time, you may find that it is (again) hard to ... (the new behavior). We have discussed this. Did this occur? Is it hard to keep on track with the new behavior, or lifestyle change, for example, moving three times a week (make a clear connection with the person's goals)."
- "As I said, you have already come a long way (with the new behavior, or new lifestyle). In this talk, we'll look at fallback moments and see what solutions might handle these relapses. You spoke earlier about ... (relapse time 1), what have you done? Was this a good solution?"
- Inventory the fallback moments with open questions and the possible solutions. Which solution is the most likely? Fill in the schedule of the fallback moments together, using open-ended questions.
- Use the matrix for high-risk situations and how to handle them and the got-used-to scale (see Sect. 5.28)
- Make an appointment on how the patient can handle possible relapse: "it's good to handle a relapse by ... (solution), if you have a relapse into ... (old behavior)?"
- Use the got-used-to scale together with the patient. Discuss if and how much the new behavior has been incorporated into the patient's lifestyle and health behavior. On a scale from 1 to 10, are you satisfied with how you use your new behavior to improve your self-management? 1 indicates self-management not incorporated into daily life, and 10 is self-management that is incorporated into daily life and is okay for me to handle.
- End the conversation with a summary and make a new appointment or look back at the behavioral change process from the start and close the coaching process.

5.17 Intervention Mapping, Step 4: Motivational Interviewing

Motivational interviewing:

By increasing the intrinsic motivation and making the patient aware so he can choose the desired (behavior) change and self-management.

Three possible situations that make use of motivational interviewing: application only in the first consultation; in multiple, successive consultations; and when the patient's motivation is an obstacle.

Four principles:

- Client-centered, empathic communication style.
- Starting from an ambivalent position.
- Dealing with resistors.
- Supporting self-efficacy.

Another model for changing the patient's health behavior or self-management behavior is motivational interviewing (Miller and Rollnick 2002, 2012). Using motivational interviewing, the nursing professional wants to increase the patient's intrinsic motivation. By increasing the intrinsic motivation your aim for the patient to choose the desired (self-management) behavior. The patient should be intrinsically motivated with regard to the desired (self-management) behavior. Motivational interviewing is a client-centered, directive method aimed at increasing intrinsic motivation to change behavior by exploring and handling ambivalence regarding change (Miller and Rollnick 2002). Motivational interviewing has been shown to be effective at increasing the motivation and behavioral change in a patient. This model has been shown to be effective for reducing body weight and lowering blood cholesterol levels and systolic blood pressure (Rubak et al. 2005). Motivational interviewing requires a strong involvement of the nursing professional and very complex operational and technical skills. Using motivational interviewing, patients remain more actively involved in the education process for longer. Patients appear to participate more actively, and lifestyle and health advice was better followed, compared with patients who were not offered motivational interviewing (Miller and Rollnick 2002). An important starting point for motivational interviewing is: "If you treat an individual as he is, he will stay as he is, but if you treat him as if he were what he ought to be and could be, he will become what he ought to be and could be." (Goethe in: Miller and Rollnick 2002).

Motivation interviewing is a complex technique. According to Miller and Rollnick (2002), professionals using the method in practice use motivational interviewing in their own way. Professionals appear to omit elements or use elements in their own way. This is, because professionals learn the method of motivational interviewing by self-study or in 2- to 6-h workshops. This is insufficient, because the method requires nursing professionals to have a lot of practice with the method and to receive feedback from other (experienced) professionals.

What are the core elements of motivational interviewing? First, there should always be reflective listening to the ambivalent attitude of the patient opposing the proposed behavioral change. Second, the motivation of the patient is increased by what is called change talk. Third, the patient's autonomy is the starting point. Fourth, the method requires the professionals to have complex communication skills to elicit from the patient solutions to the problem.

A specific (interview) technique associated with motivational interviewing is to constantly show empathy, by being sensitive to the difficulties that the patient encounters in his self-management. An interview technique is also allowing a discrepancy, the patient himself experiences the discrepancy between the unwanted behavior and the goals of self-management. By searching with the patient for the goals of self-management, the patient recognizes that the unwanted conduct does not lead to the achievement of these goals. According to this method, it is very important not to argue with the patient. If you confront a patient with his unwanted behavior, he will react defensively. Defensive patient behavior sends the patient further in the direction of the unwanted behavior. One interview technique is also to

accept resistance, but you assume that the patient does want to change. By suggesting several options, the patient may start to solve his own problems. A final technique is to support self-efficacy. This includes support of the good experiences with the desired (self-management) behavior, also if this is only a small step.

As a nursing professional, you can use motivational interviewing in three different situations. You can use it in the first consultation, as a start. If time is limited within the consultation and the patient comes from a patient population with well-known high failure rates in the treatment process, motivational interviewing can be chosen. It has been found that this one-time, unique intervention increases the chance of the patient attending a follow-up appointment. Second, you can apply motivational interviewing in multiple, successive consultations. For nursing professionals, motivational interviewing is then the communication style that is used throughout the nursing and treatment process. This includes patients in whom a behavioral change is required from a health point of view. It has been found that motivational interviewing can improve the patient's motivation and compliance. Third, a nursing professional can use motivational interviewing if a patient's motivation is an obstacle to the nursing and treatment process. This also when patients require a behavioral change from a health point of view.

How do you handle motivational interviewing as a nursing professional? For nursing professionals, motivational interviewing is about clarifying and listening to the patient's concerns, and listening to the patient's arguments about not changing his lifestyle and behavior. In a second session, the nursing professional gives feedback on the assessment, and makes an analysis of the function of the unwanted behavior in the life of the patient. On this basis, you draw up a treatment plan with the patient and set joint goals for behavior modification and self-management. In the follow-up consultations, you will work together with the patient on the goals of the treatment plan.

As a nursing professional, you use motivational interviewing when specific motivational problems arise for the patient. An important starting point is that you as a nursing professional resist the "impulse" to respond directly by giving opinions. It is important to listen to the patient in a reflective way, and from what the patient says delve deeper by asking questions. A starting point may also be that you try to seek the specific motivating factor for the patient and try to understand what can turn him on to achieving his goals. Finally, you as a nursing professional should listen closely to what the patient tells you, so that you allow the patient to become "empowered." This is done by asking only open questions and giving the patient open space to talk as much as he wants. For example, a patient with type 2 diabetes is asked "how would your life change if you moved more?" or a parent, "What would your life be like if your child did not have COPD?" You also empower the individual when you confirm what he does or has done. For example, in a patient with type 2 diabetes: "I see you've been getting started with exercising more." Reflective listening helps you as a nursing professional to listen to the patient's view, and to respond to possible inconsistencies in the patient's verbal and nonverbal communication. During the conversation, you give short summaries that the patient can understand.

The nursing professional should work on building a collaborative relationship with the patient. The nursing professional should try to create a positive interpersonal atmosphere, but does not inflict it on the patient. The personal choices of the patient and his autonomy play central roles in the education and treatment process. A key concept in motivational interviewing is cooperation. It is all about the nursing professional exploring, researching, and supporting the patient: exploring and investigating the nature of the (health) problem and the basis for the concerns; supporting the patient in the choices he makes regarding the desired change in behavior or self-management. The nursing professional should bring things together and communicate in an enlightening way. The nursing professional helps the patient to look at the (health) problem in a different way. This is helpful to the patient in finding the intrinsic motivation to change (behavioral) and tries to bring this motivation to the surface. The responsibility for the (behavioral) change lies with the patient and respect of the autonomy of the patient plays an important role for the nursing professional. The ultimate goal of motivational interviewing is to increase intrinsic motivation, so that the patient wants to change and not because this is imposed. If the principles of motivational interviewing are properly deployed by the nursing professional, it is the patient in particular who can present the correct arguments in favor of a change in behavior and self-management. Motivational interviewing implies the assumption that the motivation and the possibilities are within the range of each patient and that this "only" has to be fueled. Each patient is potentially able to change his behavior and self-management.

What are the four principles of motivation interviewing? Motivational interviewing is based on four principles and revolve around: "if you wish, I can help you change" (Miller and Rollnick 2002, 2012). A first principle is that the nursing professional shows a client-centered, empathic communication style, which means that the nursing professional communicates by reflecting. The nursing professional communicates without judging or condemning, blame or criticism of the patient. You reflect, but this does not necessarily mean that you agree with what the patient says.

A second principle of motivational interviewing is that the patient from an ambivalent or even negative position related to the (behavioral) change or self-management moves toward a positive position. If the patient visits a nursing professional, the patient often experiences a discrepancy between the current behavior and the desired behavior. This discrepancy can be lifted by creating awareness. The patient should be aware of the current, unwanted behavior and become aware of expected benefits if the behavior is changed. If the unwanted behavior conflicts with important, personal goals of the patient, there is a chance for change. As motivational interviewing is properly applied, it changes the perception of the patient, without this feeling having to be forced. The patient himself outlines why he wants to change his behavior or his self-management.

A third principle of motivational interviewing is dealing with the patient's resistance. If the nursing professional tries to break the patient's resistance by giving herself arguments and information, this is counterproductive. As motivational interviewing is properly applied, the nursing professional "goes with" the patient's resistance. Resistance is a natural and understandable reaction to change. How can you as a nursing professional deal with the patient's resistance? Invite the patient to

incorporate new information into his considerations. The patient should also be offered new perspectives on the health problem, on behavioral change, and on self-management. The patient is given an active role in solving his problem.

Finally, a fourth principle of motivational interviewing is that the patients' self-efficacy is supported. The self-efficacy is a key element in motivating the patient to change behavior and improve self-management. The self-efficacy is a good predictor of the treatment effect. If motivational interviewing is properly applied, this leads to confidence in one's own capacity to deal with obstacles and succeed in a behavioral change.

Motivational interviewing is based primarily on the conversational skills of the nursing professional and stands or falls by them. Important conversation skills are asking open questions and questions to elicit a response from the patient, but also empowering and strengthening the patient as he makes the desired statements. A conversational skill is also reflecting – sometimes selectively – on what the patient is saying about his willingness to change. Furthermore, the nursing professional has to give summaries during the conversation. Using summaries increases openness to change and using this provides the patient with an insight and an overview (Miller and Rollnick 2002).

5.18 Intervention Mapping, Step 4: Transtheoretical Model, Stages of Change

Transtheoretical model or stages of change:

- Precontemplation, resistance.
- Contemplation, ambivalence, pondering risks, potential benefits, taking stock.
- Preparation, individually oriented action plan.
- Action, changing the behavior, commitment, motivation.
- Consolidation, maintaining the behavioral change, dealing with relapse.

The transtheoretical model or stages of change is another model to look at health behavior and self-management behavior of the patient to change. The model shows that patients can be at different stages of changing their behavior. For nursing professionals, it is probably not a method for improving self-management behavior, but a way of looking at how people enter consultation at the start of the intervention.

What is specific about a patient in precontemplation, and what should a nursing professional do? A patient in the stage of precontemplation is not aware that a change in behavior is desired, the patient is unwilling or rather discouraged to make a desired behavioral change. He experiences resistance to change. The challenge for the nursing professional is to find out why the patient is experiencing this resistance. The nursing professional does this by applying the strategies in a positive way to diffuse resistance, by examining together with the patient the reasons why the

patient is in precontemplation. It may be effective to view the patient's resistance possibly as reluctance. Resistance can also result from resignation, rationalization or rebellion. If you discuss the patient's resistance of the patient, the reason why the patient is not ready for change is often revealed. Nursing professionals often think that if the patient really perceives a (health) risk, a behavioral change will emerge, or that the more information the patient receives, if the patient is confronted with his health risk, a behavioral change will emerge. But this is a misconception, especially for the patient in the motivational stage of precontemplation.

What is specific about a patient in contemplation, and what should a nursing professional do? A patient in contemplation is in a paradoxical stage: he is ambivalent toward the behavioral change. At this stage, the patient is more open to education and explores the balance between the advantages and disadvantages of the behavior change. As a nursing professional, you explore for how long the patient is considering change and also whether the patient has already made concrete attempts to change his behavior. You focus mainly on supporting the patient in reflecting on the (health) risks of the behavior. Also, focus on the potential benefits of behavioral change and the notion that behavioral change is possible for the patient. In the contemplation phase, the advantages and disadvantages of the desired behavior change are in balance.

Contemplators need accurate information about their behavior and the effect that this behavior has on their health. This includes providing personally relevant information and feedback. If the information and feedback are supported by medical data such as test results, these visual and personal data contribute to the balance tipping to the positive side (DiClemente et al. 2002). The nursing professional is focused on accentuating the positive aspects of the patient's change in behavior. After the benefits have been discussed, the nursing professional also focuses on the less pleasant sides of the behavioral change. Listening carefully, summarizing, providing feedback, reflection, affirmation, and encouragement of the self-efficacy are important in facilitating behavioral change. Overcoming the patient's ambivalent attitude and tipping the balance sheet to the positive side of behavioral change require the time, patience, and perseverance of the nursing professional.

What is specific about a patient in preparation, and what should a nursing professional do? A patient in preparation is on the threshold for action, changing behavior, and self-management. In preparation, the patient should be prepared to make a plan on how to take action. The challenge for the nursing professional is that the patient develops an individually oriented action plan. The nursing professional starts to determine the strength of the patient's commitment. The nursing professional accompanies the patient in the development of the action plan to achieve behavioral change and self-management. In the action plan, particular attention is paid to the individual living conditions and previous experience with changing behavior is stressed.

What is specific about a patient in action, and what should a nursing professional do? A patient in action starts to work on changing behavior and self-management by implementing the action plan. This stage requires the patient's commitment, time, and energy. It can be tricky for the nursing professional if the patient has already begun to implement the change since the last consultation. The patient may have several reasons to consult the professional. It may be that the patient wants to get the plan confirmed. It could be that the patient seeks support in

the process of changing behavior and improving self-management. The patient may come to discuss self-efficacy in consultation and to learn to have more control. However, he may also attend the consultation to monitor his action plan. The nursing professional must not assume that the change process will develop naturally and smoothly. In the action phase, the patient may experience conflicting feelings about the behavioral change. The patient may miss the old lifestyle and it may be a great effort to find his niche with the new behavior. The nursing professional would have to listen carefully and give positive feedback about positive facts. Often, changes should be made to the action plan to promote the adjustment, and improving self-efficacy needs specific attention. By putting the focus on the patient's successes, to confirm the decision to change, and help with the intrinsic attribution of success, the nursing professional supports the behavior change and improved self-management.

What is specific about a patient in consolidation, and what should a nursing professional do? A patient is in the stage of consolidation and preservation when the behavior change is sustained for a certain period of time and the self-management is improved. Relapse and "recycling" are often seen at this stage. Maintaining a behavior change is generally difficult for the patient. He is working to consolidate what he has achieved in the action phase and fights to prevent relapse, or he may respond to relapse by returning to the desired behavior. The nursing professional supports the patient to maintaining what he has achieved. Without strong commitment, the patient will surely experience a relapse. Nursing professionals work together with the patient to understand that relapse is seen as a teaching moment, and not as a failure.

▶ **Is there a relationship between contemplation and depression?** In one study, it was shown that there is a relationship between contemplation and depression. Within the entire group of people in the phase of contemplation, there is a subgroup that has chronic "contemplation" (DiClemente and Prochaska (2002). This subgroup reflects on behavioral change, but in fact no further than pondering and rethinking.

5.19 Intervention Mapping, Step 4: Patient Participation Model Improving the Self-Management in Patients with Chronic, Major Health Problems

Patient participation model, improving the self-management in patients with major, chronic health problems:

- Increases well-being and quality of life.
- Increases the sense of preparedness.
- Increases the sense of control.
- Lets the patient take informed decisions.
- Allows the patient to maximize the quality of life.

If a patient has a chronic (psychiatric) health problem, or a major health problem, it is more complex to change (health) behavior and improve self-management. In addition to changing the (health) behavior and the promotion of self-management, the process of living with the impact of a chronic health problem plays an important role for the patient. Dealing with chronic, major health problems requires the patient to develop the appropriate self-management skills.

Health education increases the well-being and quality of life for patients with major chronic health problems. Also, these patients may, by means of appropriate health education, obtain a sense of preparedness and of control. Nursing professionals should in their provision of education and guidance tailor it to the individual patient, so that he can take informed decisions. The technical life-prolonging treatment options and interventions for chronic health problems increase, allowing the quality of life to be maximized.

In chronic, major diseases, it is important for the patient to have a realistic picture of the health problem and to learn adapt to changing circumstances over time. Education and guidance enable the patient to develop this realistic picture, with the process to come and psychological mechanisms such as denial, understanding, and acceptance in the process of acceptance to understand. The extent to which the patient himself can influence the phase of his disease process is important. This affects the patient's information search behavior and the choice to bring self-management in line with his state of health.

Patient participation model:

Promoting self-management; the mental process of the patient is the starting point.

Realistic picture of the health problem.

Learning to adapt to changing health and circumstances over time.

First stage: despair and denial and preparation for self-management.

Second stage: releasing the denial and taking stock of self-management; increasing care independence.

Third stage: relief and recovery and teaching shared decision-making for self-management.

Fourth stage: adjustment and self-management support; prevention of relapse.

Fifth stage: worsening and the need for (support of) the self-management.

The patient participation model, not only provides an insight into how patients with chronic health problems can learn to handle their health, but it also tunes in to the need to adapt to facing the end of life.

What are the implications for denial and despair when improving self-management in the patient participation model? When a patient realizes that he is suffering from a chronic health problem, he often experiences despair and denial. The first stage of existential despair and denial includes sadness, disbelief, and

shock after hearing the diagnosis. It is important for the nursing professional to talk to the patient about the health problem in relation to the threat it poses, and about the personal, familial, and social aspects of the health problem. Because of the shock and disbelief, the patient may deny that there is a health problem. Denial of the unfavorable diagnosis can be persistent, especially if it is linked to approaching the end of life. Denial is a protection mechanism of the patient if the diagnosis gives more stress than the patient can handle at that time. A patient may proceed to total denial if there is an unfavorable diagnosis, or he may deny the severity but not the implications of the health problem. But also, the diagnosis can be seen to be a lot brighter than it really is. Denial has the side effect that care and medical treatment can be avoided. Fear plays an important role and is a natural first reaction to an unfavorable diagnosis. The fear may continue about how the patient would have to deal with the health problem, and on the impact of the health problem on life. But fear can also be about approaching the end of life, or fear of the dying process, or pain and discomfort associated with dying. Talking about his fear and how symptoms can be controlled, and discussing what measures can usually be taken to keep him as comfortable as possible can reduce fear.

In this first stage, most chronic patients' needs are to have personally relevant information. The nursing professional should inform them about the diagnosis, the proposed treatment, and about the impact that the health problem and the treatment might have on the life of the patient. In this, the exchange of information is central. You work on building a collaborative relationship. The health problem usually also requires changes in the behavioral and improved self-management behavior of the patient. The patient should become aware that improved self-management can help him to deal with his health problem and that this may improve his (care) independence, well-being, and quality of life, as much as possible. The most effective strategy is a nonthreatening, one-to-one communication, in which the nursing professional encourages the patient to ask questions. Frequent, short conversation calls are advisable if the fear and fatigue of the patient has an impact on his concentration. Follow the patient and give him what he asks for.

Patient participation model, letting go of the denial, what are the implications when improving self-management? In the second stage, letting go of the denial, it's going to be a further awareness that self-management is desired and watching the pros and cons of this self-management. If the patient the existence of his chronic, major health problem no longer denies, feelings of despair shall prevail. It is important to listen to the patient and to offer him recognition by his feelings. An important goal is that the patient gains control over his situation. Nursing care should need to be designed that the patient regains his powers and his life.

Self-management offers the patient opportunities to experience control over the health problem. In addition to the greater awareness of the health problem and the role of self-management in this regard, it is important with the patient to take stock of the advantages and disadvantages of self-management. This balancing of pros and cons, is a question of whether the benefits of self-management behavior outweigh the disadvantages. The nursing professional builds the cooperative relationship to a relationship in which participation of the patient is central. The

communication should be aimed at expressing feelings. The education also covers again explaining aspects of health problem in which in the previous stage a blockage occurred.

What are the implications for relief and recovery when improving self-management in the patient participation model? The third stage is about relief and recovery and can be very long lasting. The central theme is that the patient learns to deal with his health problem, master the necessary self-management and that the health problem can be given a place in his life. Acceptance of the chronic, major health problem has not yet occurred, but the patient is already a little closer.

The patient education process is focused on decision-making. The patient should decide whether or not he is going to change his behavior and improve his self-management. The patient will only decide to improve his self-management if the benefits outweigh the disadvantages. Before a patient can change his behavior, it is important to detect barriers in self-management and to clean up. Obstructing emotions are often barriers. Barriers can hinder the patient in getting started with his self-management. The nursing professional discuss these barriers and problems that stand in the way of the implementation of the desired behavior, and how he can tackle these obstacles so that he can work on his self-management. Furthermore, it is important the patient learns (social and practical) self-management skills. The nursing professional will ask the patient to think about the way the self-management behavior can best be taught and what kind of support he would like. Finally, the nursing professional asks the patient how he intends to deal with the reactions of his social environment to the changes resulting from his self-management. The nursing professional invites the patient to think about how his resilience can be increased, and who would be a suitable partner to offer social support. Expressing feelings is also central at this stage, as at every stage. At this stage, in addition to individual consultations with the nursing professional, group sessions can start. Group sessions can make the health problem more bearable and (social and practical) skills for effective self-management can be learnt.

What are the implications for adaptation when improving self-management in the patient participation model? The fourth stage is targeted at adaptation, making decisions and identity changes. This phase includes the entire period of being chronically ill. One patient is better able to adapt to having a chronic health problem, with radically and heavily modified conditions, than another patient. The central theme is: how to deal with the disease? The patient should see himself as valuable. His life is severely modified, but not lost. The patient should find a new identity and start to identify with people with similar health problems. He must also take decisions on issues associated with the treatment, second opinions, work, sexuality, and interpersonal affairs. The treatment process, the fear of yes/no recovery, and dealing with stress, requires the patient to expend a lot of energy. The nursing professional approach consists of listening, understanding, and responding to what the patient says, to encourage him to learn to accept the situation.

The patient education process is aimed at bringing about behavioral change and sustaining behavior changes and improvements in self-management. Concrete goals are a prerequisite for the patient to enable implementation of the opinions

on self-management. The nursing professional consults with the patient and they jointly formulate concrete goals that state – what, how, when, and how often – the desired self-management (part) behavior is to be performed. In addition to these goals described together in an action plan, you search together with the patient for behavioral support measures that can be of help. Behavioral support measures recall the patient to the self-management. To enable the self-management to be sustained long term, the nursing professional gives attention to behavior preservation and perpetuation of the desired self-management. The nursing professional offers the patient positive feedback on self-management. Along with the patient, high-risk situations are identified and adequate coping responses are looked at. Finally, the patient must learn to deal with errors and negative experiences with the behavioral change and self-management. The nursing professional and the patient talk about the prevention of relapse into the old, unwanted behavior and especially how to deal with this relapse. In the prevention of relapse, the nursing professional connects to the treatment process of the patient. At this stage, in addition to individual consultations with the nursing professional, group sessions motivate the patient to perform self-management well and to undergo the treatment process.

What are the implications for deteriorating health when improving self-management in the patient participation model? The fifth stage is entered as the chronic, major health problem worsens and health deteriorates. Now, again, the education process focuses on answering questions, explaining what the disease does in the body, explaining and discussing the options, emphasizing the ownership and freedom of choice. Is also emphasized that comfort is more important than recovery. The nursing professional accompanies the patient toward acceptance.

Patient education continues in the dying process, the mourning process, spiritual and existential questions of life, interpersonal or communication problems, and the need for open, honest communication. Relapse to denial occurs regularly. Denial, awareness and acceptance, knowing and not-knowing alternate, and this affects to a large extent whether self-management is sustained or intermittently or completely released. The nursing professional adapts her education to the needs of the patient. The patient is the one who indicates what is important and what self-management (part) behaviors for him are important and should be supported. Consultations with the nursing professional are short and adapted to the mental and physical condition of the patient. There are no longer any group sessions. An important goal is to bring together the patient and his family and support them at the beginning of the last phase of life. In the pre-terminal stage and the dying phase there is often talk of decline in self-management.

5.20 Intervention Mapping, Step 4: 5As

To improve the self-management of the patient with chronic health problems, the 5As construct can be used. The 5As construct stands for assess, advise, agree, assist, and arrange. The purpose of the 5As is to develop a patient-specific action plan

together with the patient. This action plan consists of specific behavioral goals and includes ways to achieve these goals and to deal with barriers. The methods and strategies used in the 5As construct increase the patient's knowledge and skills, and his confidence in being able to deal with his self-management. The 5As method uses action planning and coping planning.

5.21 Intervention Mapping, Step 4: Ask-Tell-Ask

After consultation with a nursing professional or other health care provider, patients often leave without receiving the information or health education that they had expected to get, or they feel overwhelmed by all the information and consider themselves unable to understand or comprehend the information. Patients understand information better if the nursing professional starts the consultation by asking what exactly the patient wants to know, hereinafter referred to as the nursing professional giving answers to the patient-specific questions. The nursing professional then checks whether the patient has understood the information. This could be by asking if the patient can tell it "back" to the nursing professional. For example: "I have told you a lot now, and because I like to know if I have answered your questions: can you repeat back to me what I just said? This gives the nursing professional the opportunity to assess whether the patient has understood the information and whether there are misunderstandings. The ask-tell-ask method is designed to work with the patient to make patient-specific (health) goals (McGowan 2012).

- **Preoperative patient education.** In a review of preoperative education aimed at reducing postoperative pain, consisting of one-to-one or group education with additional written material, it turned out that the preoperative education, which was based on a biomedical model with (patho)anatomical and procedural information, had barely any effect on the reduction of postoperative pain (Louw et al. 2013).

5.22 Intervention Mapping, Step 4: Supportive Social Relations

Social relations support and confirmation of the patient's self-management have a positive effect on his well-being. Social support also has a beneficial effect on the patient's knowledge and necessary skills. Social relationships can promote and improve patients' self-management or work against these improvements.

What is specifically in favor of social relations having a positive impact on patients' self-management? Social relations who are aware of the patient's necessary treatment and self-management can confirm that he does not stand alone. Social relations can, if they feel involved, talk together about treatment and self-management. Also, social relations can provide role models for the desired self-management behavior and be an example to the patient. Social relations can

diminish barriers that hinder the desired patient self-management, and they can confirm the desired behavior, by rewarding or providing positive feedback. Social relationships can provide an early signal and notice any relapse. Social relationships have a significant impact on patients' implementation of the self-management behavior, and also on the ultimate effectiveness of the given patient education. Finally, we see that social relations of the patient often help to make decisions about the use of health care.

What is specifically in favor of social relations having a negative impact on patient self-management? Patients' social relations are often not prepared "to change" and follow the changes that are important for patients' health. The people in the social environment, may consider that the health problem and the patient's related desired behavior change have nothing to do with them. Often, patients' social relations are willing to temporarily adapt to the patient. For example, to give a push in the back by buying fewer snacks. But it becomes more difficult for them when a patient needs support in the longer term too, and an adjustment in their own behavior is requested. Social relationships can provide negative role models for self-management behavior, create barriers, and be positive about patients' unwanted behavior. Social relations can even block the desired self-management behavior. Disease and treatment often not only raise the patient's anxiety levels, but also that of his social relationships and family. The fear of the social relations and family can be a barrier, and cause the patient to be unencouraged or unsupported.

How does a nursing professional handle this? With early involvement or searching for social relations that are prepared to offer social support, patients' self-management can be improved. This may also prevent a removal occurring between the patient and his social relations. The involvement of the social relationships in the care process can aim to support the patient in his self-management, or aim to support the social relationships themselves. As social relations have more knowledge about a health problem, they develop realistic expectations for the recovery and the period after recovery. As social relations have more knowledge, they know ways of dealing with problems associated with the health problem and solve those problems. As social relations better understand the situation, they can better deal with the patient and with changes in interaction. Finally, patient education can help the family to deal effectively with the negative aspects of a disease, such as with guilt and anger –common emotions of the patient with (psychiatric) health problems. The patient may experience (normal) emotions, but the social relations often experience such emotions too and this would be a topic of discussion for nursing professionals. The education process that is focused on the patient usually runs unparallel to the education process, which is focused on the social relations. The education focused on the partner and other social relationships requires a different effort. The education needs and the knowledge level of the patient may even be very different from those of his social relations.

The health problem and the related treatment affect both the patient and his family. They change everyday life and require extra time and effort. Illness and treatment can both improve and threaten relationships, and affect how everyone plays their role in the social system. The possibilities you have as a nursing professional

to a patient to learn to maintain or restore health also depend on the capabilities of the patient's social network. The social relationships that support the patient should need to feel part of the treatment care plan. Nursing professionals can motivate these social relations to support the patient, to encourage and help him with the parts of the behavioral changes that are difficult for him. If the nursing professional involves a third party in the education process, this changes the working relationship with the patient, but the patient remains the center point of the education (Falvo 2004).

Is it easy for social relations to support the patient in his self-management? Not every patient is getting the support and encouragement they need. Not all social networks have the emotional stability for long-lasting support. Nursing professionals would need to develop the skill to identify patterns in relationships and be alert to whether or not to support the bidding attitude of (direct) social relationships and family. This attitude of social relationships always affects the extent to which the patient is willing to carry out the (health) advice from the health care and treatment plan. The perception of the health problem through the social environment and family is often more important than the type of health problem. As nursing professionals can mobilize support from the social environment, this can be an effective contribution to the self-management of the patient and for the care and treatment process. A pitfall is that family members are just family members, and not professionals. Their involvement in the treatment process is only meant to encourage and support. Social relations and family would not have to play an imposed role in which they need to monitor in the absence of a professional.

5.23 Intervention Mapping, Step 4: Informed Consent

Informed consent:

Information duty and permission required.

The patient must be informed of the nature and purpose of treatment, risks and consequences, alternative treatments, health prospects, and he must be kept informed about developments in his state of health.

The patient must give his approval to any treatment, as he has the right to self-determination.

Permission requirement: no treatment without permission and no consent without information.

Informed consent is a fundamental right of the patient. This right is based on respect for the patient, to determine his own goals based on their own values and standards, and to make decisions about how he wishes to attain these goals. Informed consent is rooted in the active participation of the patient in his health care. Health care providers can only refrain from informing the patient if it would lead to an

unacceptable psychological burden for the patient, which is the therapeutic exception to the obligation to provide information. The burden includes the risk of suicide or other life-threatening situations. A second opinion is required before information can be waived, and the obligation of information must still be met if the unacceptable mental burden of the patient is lifted. If a patient says he does not want to receive information, information can be waived, but only if the interest of the patient outweighs any possible negative consequences to himself or to others. This is an undesirable situation.

In addition to the information requirement, there is the consent requirement. This means that a patient must give his approval to any and every treatment. Undergoing an investigation or treatment is a violation of the physical integrity of the patient and only the permission of the patient may justify this. Thus, injecting against the will of the patient is a violation of his physical integrity. The permission is necessary because the need for a given investigation or treatment is best assessed by the patient himself. This is called the right to self-determination. The obligation of information and the consent requirement are clearly related. Only if the professional informs the patient well, he can take a responsible decision as to whether or not to undergo profound research or treatment. Damoiseaux (1993) says clearly: "no treatment without permission and no consent without information." The consent of a patient cannot extend beyond the information on which it is based.

Is there a relationship between informed consent and patient education/improving self-management? Informing the patient that he is able to make decisions about his own health and well-being is also the basis of patient education. Informed consent is the vital element in the cooperative relationship between health care provider and patient. Facts, concerns, and alternatives must be discussed openly and the patient plays an active role in the decision-making process on his own health and well-being. This active, participatory role is a good starting point to invite the patient to discuss self-management and especially his wishes in relation to self-management.

In health care, the assumption is that if the patient is fully informed of all the risks of the procedure or treatment, this might make him unnecessarily anxious and be stressful for him. Another persistent assumption is that the information about the risks and the consequences of the treatment or procedure will induce therapy infidelity and noncompliance. Both assumptions are incorrect. The key to informed consent and patient education is effective communication between the patient and the professional, where the individual needs and concerns of the patient are central. This cooperation requires continuous mutual information exchange and communication between the patient and health care provider.

The quality of decision-making and patient education increases if the patient has time to think about the information, and if the patient can weigh up the benefits and risks before he proceeds to taking a decision, in combination with having enough time to get his questions answered and to discuss his concerns.

Just telling the patient what options he has and seeing if the patient understands the information, does not make a patient a well-informed patient. The patient may only make an informed decision if he can make a weighted decision based on his

own priorities. For informed decisions, the patient should receive accurate information and the ability to understand what it is all about (the treatment, the procedure) and to analyze the consequences and alternatives from different perspectives. This analysis would then have to be set against the patient's priorities and personal preferences, and then finally a choice would have to be made, often a "middle way" (Elwyn et al. 2003).

What is patient-centered consent? Patient centered consent would have to be based on the patient's goals. Health care providers should explore what the patient's needs are, where his priorities lie, and accordingly give him consistent tailored, specific information to help him reach a decision (Bridson et al. 2003). Informed consent must contain at least the diagnosis, explain the proposed treatment and the aim, the risks or consequences of the proposed treatment, the chances of the proposed treatment being successful, alternative treatment options, and the consequences of the non-application of the proposed treatment (Falvo 2004).

- In a meta-analysis focused on informed consent for patients who underwent a surgical procedure or an invasive procedure, there appeared to be an improvement in the patient's knowledge immediately after the intervention, afterward (up to 14 days), and later (after 15 days or more). Also, the patient experienced informed consent as a clear decision, but this did not reduce patients' anxiety regarding the surgery or invasive procedure (Kinnersley et al. 2013).
- A review of informed decision-making around screening showed that patient-specific risk communication leads to better decision-making for the patient. For (mainly) breast and colon cancer screening, the provision of education around the screening has been looked at, whereby people could take a decision whether or not to take part in the screening based on their individual risk profile, compared with people who had a general risk education. The people obtained more knowledge without increasing the fear. Providing specific risk education led to a small increase in the number of people who underwent screening (Edwards et al. 2013).

5.24 Intervention Mapping, Step 4: eHealth

eHealth: has a positive influence on the self-management of the patient:

- Supports self-management.
- Has a positive influence on patient participation and patient empowerment.

Patients' self-management can be supported by using eHealth. eHealth is in line with the active role that patients want in dealing with their own health and in the collaborative relationship with the health care provider. The technology offers opportunities for self-management support (SMS), patient-specific education that

can be tailored to patients' specific needs. eHealth offers opportunities to join not only people in the patient's social network, but also other health care providers. According to Kaufman (2010), caregivers can promote self-management if patients' self-management is supported by the internet, if the internet is interactive and customized, and shows patient-specific information. Also, the patient should be given the opportunity to have access to his health data, and support should be given to understanding the monitored data. The patient would also be supported by the internet in its self-management by learning to deal with barriers. A virtual coach can provide this support and the patient can participate in virtual support groups, in which patients can make contact and find solutions to the problems they encounter when improving self-management.

> ▶ **eHealth.** A good way to support care is a website that maps out the patient's symptoms using a questionnaire and the patient obtains the advice whether or not to visit the family doctor.

eHealth can be offered in integrated care networks, hospital information systems, and clinical information systems. In integrated care networks, telehealth and eHealth can consist of ambient-assisted living, also called domotics. In hospital information systems, it can consist of telecare and tele-monitoring. Telecare offers nursing professionals the ability to have social contact via videotelephony. Care portals are also subject to telecare. Tele-monitoring offers nursing professionals the ability to monitor (vital) patient data, such as blood pressure and blood glucose. eHealth in clinical information systems consist of tele-disciplines, which improve communication between nursing professionals and in multidisciplinary teams, for example, teleradiology, or tele-screening.

Can self-management be improved using eHealth? eHealth or online interventions can be a supplement or a result of the face-to-face contact with the nursing professional, but can also be separate from any professional or health care provision. eHealth or online interventions are intended to interact with the patient and provide patients with specific and tailored follow-up and general feedback (Kohl et al. 2013).

A review showed that eHealth interventions are effective for patients with diabetes (Ramadas et al. 2011). Goal setting, personalized coaching, feedback, and online peer support were methods used in the intervention. For self-management and self-monitoring, frequent contact with the health care provider was shown to be an important factor. The presence of a nursing professional or other healthcare professional strengthened the eHealth intervention and promoted the compliance of patients with diabetes. Using other techniques, such as mobile phones, reinforced the effect of the eHealth intervention.

The benefits of eHealth are the 24-h anonymous availability, by which the patient can work at his own pace. The disadvantages of eHealth are (also) the anonymity and the job that is done by the patient himself, down to his own efforts and persistence. If the patient searches for health information on the internet, this may increase patients' participation and empowerment in the patient care–treatment process. This

may also have a positive influence on patients' self-management and taking informed decisions about care and treatment support. Nursing professionals increasingly notice that the patient, before first contact and during the treatment process, searched for health-related information on the internet. The patient may expand his knowledge and insights related to his health problem and feel supported as a result, but it can also lead to important questions or uncertainties. The internet sources may be incomplete or inaccurate, or contain deficiencies in the representation of facts that a patient needs. Also, there is a danger that reliable information is interpreted incorrectly by the patient. Finally, as a result of the abundance of education, a great need may arise to access reliable information.

The internet offers patients the possibility of informing themselves and to find backgrounds, but also to exchange information with fellow sufferers and support experience in dealing with a health problem. The internet offers the patient the possibility of communicating, such as anonymously consulting a nursing professional, without having direct personal contact. Think of treatment via the internet for mental health problems regarding depression, obesity or HIV. The internet offers the patient the chance to be with the nursing professional to continue to communicate on the education and treatment process, outside of the consultation time. The internet also offers the patient the ability to ask for a second opinion. Directly related to supporting the self-management of the patient, the internet provides the possibility of supporting the patient in the process of behavioral change. Also directly aimed at self-management, the internet offers the ability to prevent health damage by alerting others to health risks. For example, in the case of skin deficiencies, by the patient providing attractive visual and audible education messages. For the patient, it may be tricky to select reliable sources on the internet, but there are more and more patients who can handle this well.

- **Is possible to prepare a patient for using eHealth?** In elective care there is formal, nursing care combined with informal care, eHealth. The preparation for the operation can be done through eHealth. The information needs of the patient are explored and the given information is tailored to the specific situation. Questionnaires can be filled in. The patient may later ask supplementary questions. The quality of care would be promoted by eHealth and lower the total cost.

What are examples of eHealth? Examples of eHealth are web-portals for health information focused on a specific health problem: think of a web-portal for patients with rheumatic health problems. Electronic consultation can improve communication in the nursing professional–patient relationship, but also the mutual communication between health care providers. Websites focused on patients may aim to inform the patient, but also to offer emotional support to the patient or to motivate behavior change. eHealth interventions are more effective if the intervention is supported by a health care provider. eHealth interventions may complement the care contacts with the nursing professional, but can also replace them; all kinds of transitional forms are possible.

The eHealth interventions may be directed at chronic health problems or directed at promoting health behavior. eHealth focused on chronic health problems can help the patient to deal with the health problem emotionally, so that he learns to accept that he has a health problem, but also when dealing with limitations and setting self-management goals. eHealth aimed at promoting health behavior can prevent health problems, and extend health. Although the choice of eHealth interventions increases, many interventions are not intensive or have prolonged use, even though they are developed in consultation with the target group.

- The modern care continuum. Although the demand for care will increase still further, the number of health care providers will not increase. A way to handle this care demand is with the more effective use of professional care. eHealth can support the professional care as a technical tool and make care contact less intensive. For example, eHealth in health care uses smartphones to monitor patients or offer self-management support in the form of an app.

For online prevention and lifestyle behavior, many interventions are aimed at body weight behavior, movement behavior, and eating habits. As face-to-face-contact and interaction elements are added to the intervention, the use of the online intervention increases. It also appears that if online interventions are embedded in an existing structure, such as in a school or in the healthcare sector, the effectiveness increases. Finally, frequent updates of the online intervention are important. However, the efficacy of on-line interventions is minor and the changes in behavior are usually not lasting in the long run. In particular, highly educated people, more often women, take part in this online prevention intervention; it is proving difficult to reach high-risk groups with online eHealth intervention. The main problem is that online interventions are badly used (Kohl et al. 2013). A systematic review showed that the effectiveness of eHealth diabetes self-management interventions was limited (Kingshuk et al. 2013). These interventions have a small positive effect on the HbA1c and lipid profile, with a slightly greater effect in the group that also includes telephone support.

How should nursing professionals incorporate eHealth into their care? Nursing professionals should simply ask patients whether they use the internet as a source of health information. Patients should be also be encouraged to ask their questions and concerns about information they have read on internet, and to discuss it with the professional. Nursing professionals would also definitely need to refer to reliable websites where health information appears complete, for example, health portals of hospitals with reliable health information and referrals to good websites. Targeted information can improve patient participation and patient empowerment, and this supports freedom of choice. The internet also offers many opportunities to equip the patient with "custom" information to inquire about health.

The information needs of the patient depend on a number of factors and some of them make personal contact with the nursing professional necessary. The

information needs of the patient depend on the condition of the patient, but especially on the severity of the health problem. The education needs are also dependent on the type of treatment and how serious, profound, and heavy treatment is. The information need is also concerned with the nature of the relationship with the health care provider: is this periodic, incidental or has there been a long-term relationship. Finally, the information needs depending on the degree to which the patient will and can be his own director. For example, the difference between patients with chronic health problems or patients with acute health problems.

> ▶ **Is eHealth also for chronic patients?** eHealth is can be used by chronic patients. Patient data can be stored and made accessible to the patient and health care providers, with improved reconciliation of care and treatment. A patient can send health data to a eCoach and the eCoach warns the patient is health data are not within limits. The health care provider may offer the direct support of self-management remotely.

The health care sector is increasingly using new information and communication technologies. Technology in healthcare is used to further optimize the quality of care for patients with (chronic) health problems; and is also increasingly used to promote the patient's self-management. An important condition for the effective use of e-health is that the privacy of the patient is legally protected, and that the health care provider who uses the data is actually the patient's health care provider. eHealth is a promising tool for offering accessible high-quality cost-effective care, and will be increasingly used in the future. The health care sector will further integrate e-health into care and treatment. This includes the exchange of patient data between health care providers, so that the patient's data are accurate and up to date at any time the health care provider needs the data, but this requires the system to be safe and reliable and properly issued by care providers. The patient should also have access to his own data.

Second, using new information and communication technologies, guidelines and technical (professional-specific) standards can be applied, so that the quality of care improves and the evidence level of care and treatment increases. Also, the convergence of different occupational groups can be optimized.

Third, use of new information and communication technologies can improve self-management support by the nursing professional. The patient can be informed and support his self-management. eHealth focuses on the patient without the intervention of a professional, as eHealth in support and optimization of self-management coaching by the nursing professional. It is expected that eHealth in healthcare will be further improved in the future. The patient's smartphone plays an increasingly important role and serious gaming is also undergoing major changes. eHealth is now primarily visual in nature, but it is expected that experience will play an increasingly important role. The patient may personally experience new behaviors and better self-management in virtual surroundings, and this would be the bridge to the implementation of the desired behavior in everyday life.

- **eHealth: self-monitoring**. There are self-management eHealth interventions aimed at self-monitoring for patients with diabetes. The patient enters his blood glucose measurement, daily or weekly, and on this basis receives a specific recommendation of the medical care provider. The HbA1c levels declined (Ramadas et al. 2011).
- eHealth: patient-specific objectives. Using the computer, patients were shown to be supported in their formulation of patient-specific targets. The patient chooses a main category, for example, osteoporosis or taking more exercise, and then chooses from a list of his own goals, based on his own preferences and current behavior. For example, patients with (at a high risk of) osteoporosis can choose to change the power supply, for dietary supplements or for weight-bearing exercise. These goals are further individualized by the patient and the patient composes his own action plan. For example, "I'm going to use a lot of foods with calcium and eat more fruits and vegetables." Promoting healthy behavior or self-management is hereinafter supported by feedback, encouragement can be given, high-risk situations detected and cleaned up, etc. The patient can electronically communicate with an expert or (regularly or occasionally) contact a nursing professional.

5.25 Intervention Mapping, Step 5: Implementation Plan Self-Management Intervention

In step 5 of intervention mapping, it is described in the implementation plan how the self-management intervention should be carried out. The implementation plan is written for the nursing professionals, who will use the self-management intervention. The effectiveness of self-management interventions depends on how well the patient is capable of bringing his self-management behavior in line to deal with his health problem. The effectiveness of self-management intervention also depends on how well nursing professionals are able to carry out the intervention as described in intervention mapping step 4. In promoting patients' self-management, you as a nursing professional are an important link. The effectiveness of the self-management intervention and whether the patient really is able to improve his self-management depend to a large extent on the competencies of nursing professionals. Implementing the self-management intervention requires nursing professionals to start the communication process with the patient (for a closer insight into intervention mapping step 5, see Chap. 4, Sect. 4.11).

5.25.1 Communication Process: Source

The nursing professionals are the source in the communication process. The source sends a message, via a strategy, to the receiver of the message. The source invites the patient to participate in the communication process. The strategy of the

nursing professional can be to approach the patient as an individual contact, or in a group of patients.

What are issues for nursing professionals, as the source in the communication process? In the implementation of the self-management intervention and the communication process with the patient, the credibility of the source plays an important role for the patient. The credibility of the nursing professional is determined by its expertise. Especially if the patient feels a little concerned, such expertise is important. The patient experiences the communication more positively as the nursing professional shows appropriate affective behavior, such as commitment and respect. The nonverbal behavior of the nursing professional would be in line with her verbal expressions. Also, the positive professional attitude shown by the nursing professional facilitates effective self-management. Building a cooperative relationship with a participating role for the patient has a great chance of succeeding if the nursing professional approaches the patient with an open view, with appreciation for his own values, preferences, and points of view. If the nursing professional approaches the patient with a negative view of self-management or the mutability of self-management behavior of the patient, this will have a negative impact on the cooperative relationship. If the nursing professional expects the patient education to have only a limited positive result on the patient's self-management, this can be a self-fulfilling prophecy.

5.25.2 Communication Process: Message

What are the issues for the nursing professional as the message in the communication process? It is important that the message is patient-specific, and starts from the patient's needs and specific health problem. The nursing professional checks constantly to see if there is any isomorphism, if the information is in accordance with the meaning that the patient gives out. The communication process is rarely flawless and often creates non-isomorphism. The education message is distorted, is "lost," or the patient has a different view than the nursing professional. It is therefore important that the professional avoids agreeing with statements made by the patient that are not an accurate representation of the facts.

5.25.3 Communication Process: Message—Patients' Recalling and Participation

At the end of a nursing consultation, recording or conversation, outside the room, the patient recalls 20% of your information and education. A patient remembers 10% of what he has read in, for example in a patient booklet or leaflet. A patient remembers 35% of what he has seen, for example if the patient sees an instruction film for self-management skills.

How can you improve patients' recall? The patient remembers more when hearing and seeing are combined, i.e., 55% of the offered information and education. A patient remembers 80% if you invite him to repeat the information and

education. The best result is obtained by asking the patient to repeat in his own words and demonstrate the self-management skill at the same time; the patient then remembers 90%.

How can you improve patients' participation? The effectiveness of the education message increases if the nursing professional focuses on the needs of the patient and set the agenda in conjunction with the patient's agenda. Bring equality to the relationship, invite the patient to participate, invite him to ask questions, and to discuss expectations and doubts. You should provide the patient with comprehensible and complete information and to do this, it is important to take the time and not give the impression that you are busy. If you are able to make a balance between instrumental and affective behavior, this favors effective communication. If the message contains bad news for the patient, it is better not to give any new information.

If the message is about promoting self-management, the logical sequence of the conversation is first to discuss the good reasons for improving self-management, followed by the less important reasons. This always excludes the strong arguments in favor of self-management, let the patient repeat what the essence is, and finish clearly with a logical conclusion. When the message has a positive charge, the patient is more likely to follow the message. The education message is also enhanced, when is suggested that the recommendation for self-management leads to a better situation for the patient.

It is important that you as a nursing professional take into account the privacy sensitivity of (aspects of) the message. Try to keep the education message limited and simple, formulate it concisely and follow the main line of the conversation. Support the main line of the message with examples that are appropriate for the patient. Walk only along the side tracks if this is essential for understanding the education message. If the amount of education is greater than the message of the education, divide it into parts. The carve-up of the educational message is certainly of interest if the message has a strong emotional charge for the patient or if self-management is complex. Offer the patient space to ask questions and to monitor his own "agenda."

The patient picks up education that complements existing views and is close to his own values and norms. An important aim of the patient is to achieve a mental state in which the newly received message is in balance with existing views. When a diagnosis or prognosis has seriously upset the patient's balance, it should be the aim to provide education that enables the patient to regain his balance. An educational conversation can also provoke unintended reactions, for example, a strong emotional response or fear, or a rational response as a defense against a message that is difficult to contain, or the patient may deny it.

How can you invite a patient to participate? The nursing professional may give the patient homework task of thinking about the way in which the new behavior can best be taught and as an example to think of anything with a similar level of difficulty that he himself has previously taught. If a patient has a strong need to guard his independence, you can ask him to propose how to change behavior and improve self-management. You can also invite the patient to outline several options for changing behavior and improving self-management, from which the patient can

choose. In addition, you can sketch out the possibility for changing behavior and improving self-management and in consultation discuss further interpretation. If the patient has little trust that improving self-management could be a solution, it can work out well if you invite the patient to first collect information. The patient then has time to get used to the idea and to understand his problems.

- Interventions focused on promoting behavioral change and supporting self-efficacy are more effective. These interventions often lead to behavioral change and maintenance of the desired self-management-behavior, better health outcomes (blood pressure, glucose values, etc.), better quality of life, and reduced use of health facilities and arrangements (McGowan 2012).

5.25.4 Communication Process: Strategy—Individual or Group Education

It is important that the (individual or group) education fits the performance and change objectives, described in intervention mapping step 2. Within the nursing profession, the most frequently used strategy is individual education, in a one-to-one relationship with the nursing professional.

What are matters for the nursing professional in choosing the strategy in the communication process? The nursing professional may be finely tuned in promoting self-management tailored to the patient's unique situation. Individually targeted interventions with a duration of 3 months or more lead more often to better compliance from the patient compared with interventions that are shorter (Coster and Norman 2009). If interventions last longer, the effectiveness of the intervention increases, but by offering frequent contact with longer time intervals, the effectiveness remains high (Sigurdardottir et al. 2007).

With group education, it is obvious as you go through the social processes that a group can achieve the self-management goals of (the family) the patient. Group education is focused on achieving goals that cannot or that it is much more difficult reach in a one-to-one relationship. The group is formed of patients who are at some point equal. For example, they have to learn the same management skills, or learn the same social skills to handle social pressure. This is also the entry point from which the education and self-management support the group. Putting together a group of patients to inform them about the health problem and the care–treatment process is usually less effective; the patient hears what he already knows, because patient-specific education is missing. If the group education is aimed at empowerment and patients are invited to participate, this has a beneficial effect, whereas the number of sessions is not of great importance (Coster and Norman 2009).

Interventions carried out in group sessions turn out to have good results for patients with type 2 diabetes. A systematic review of RCTs (Norris et al. 2001) showed that patients lost weight and improved their blood glucose results. According to McGowan (2012), the effectiveness of group education is improved by starting

with an individual interview with the patient, to make an inventory of patient-specific problems. These patient-specific problems are brought in to determine themes in the group meetings, and peer learning can arise. At the end of the group session, the patient should make an action plan. As group education takes shape in this way, then the compliance and the patient satisfaction result in better health effects and fewer hospitalizations. This effectiveness has been demonstrated in patients with coronary heart disease, diabetes, and chronically ill elderly patients.

- For **patients with HIV** it was shown that **individual education** was effective at improving adherence to treatment (Coster and Norman 2009).
- **Follow-up after hospitalization** can strengthen the educational effect. Through one individual home visit with the topics of heart failure and medication use, it was found that the number of readmissions decreased and self-management was improved. The same effect was seen in consultations with nursing specialists Paul 2008.
- For **patients with diabetes** was shown that **group education** was effective at improving clinical outcomes (blood-glucose levels, body-weight and psycho-social factors (Deakin 2005 in: Coster and Norman 2009).
- For **children with epilepsy and their parents**, it was shown that group education was effective at reducing the frequency of epileptic seizures and increased knowledge about this complex health problem. Individual (child + parent)-self-management support proved to be effective in symptom-monitoring and reduced the number of contacts with the health care provider (Coster and Norman 2009).

5.25.5 Communication Process: Strategy—Leaflets and Brochures

In supporting patient self-management, patient-brochures and leaflets are used, journals or logs, patient cards for recording appointments, and booklets to note medication use or measurements such as blood pressure and cholesterol. Websites also offer new possibilities. Research shows that using websites results in more effective communication between patient and nursing professional; but did not improve self-management or promote the self-management behaviors of the patient (McGowan 2012).

Patient brochures and leaflets can give support, as they contain the patient's core information, and if the material is personalized, for example, with the name of the patient or it is indicated with arrows what is important for the patient. However, a leaflet or a brochure will extremely rarely cause behavioral change or optimal self-management.

In general, a patient brochure is read just once and then thrown away. A suitable patient brochure or folder sets high standards for its creator. The amount of information, the level of difficulty, the word usage, sentence structure, and the type of

illustrations must be accurately tailored to the patient group and to the providers of the folder. The effect of a patient booklet or-folder increases if personally handed over to the patient. It is recommended that patient brochures or folders focus on one topic, for example, self-management advice or writing in appointments. Patient brochures and leaflets can complement and invigorate work on the oral patient education, but they should not replace the interpersonal interaction. Nursing professionals can be so "busy" with the use of materials, that they forget what the purpose is of the material, merely a possibility to read again what the professional already discussed.

For patients, patients brochures or flyers are not attractive. Not every patient is equally skillful at reading a patient brochure or folder. Graphic presentations can have shocking effects on the patient. The assumption is that the shock would encourage the patient to comply, but we have no proof of that. If the patients brochure or directory are more detailed than the personal education for the nursing professional, then this indicates more damage than benefit. The patient may become confused, or afraid.

Providing patient brochures and folders before the oral education also has its disadvantages (Falvo 2004). First, this increases the anxiety level of the patient. Second, the nursing professional thinks the patient has already "absorbed" the material and is informed. Patient brochures and folders can obstruct the patient from asking questions, because he thinks the nursing professional expects that he has read it all already. Finally, patient brochures disrupt the personal interaction at the initial consultation, when a collaborative relationship with a mutual exchange of education should be central.

- Tele-monitoring is a useful tool. In a study by Paul 2008, it reduced the number of hospital readmissions in heart failure patients. In this study nursing specialists gave information on medication use, side effects, wrist recordings, and monitoring the body weight. The patients had contact with the nursing professional specialist three times a week via tele monitoring and then they gave their weight and vital signs and symptoms. The nursing professional specialist supported the patient in his self-management and the desired medication use became more common.
- A review showed that when tele-coaching is used for (mostly vulnerable) patients with chronic health problems, this leads to improvements in health behavior, the self-efficacy of the patient increases, in addition to the health status and patient satisfaction (Dennis et al. 2013).

5.25.6 Communication Process: Receiver

What are matters for the patient, as the receiver in the communication process? Patients get at recording a sense of dependence and experience an imposed passivity. An active, participatory role with a sense of individual responsibility and

self-determination is important. In general, not every patient is eager to give their views or changing behavior. Certainly not if the change is radically for the patient, or requires great effort from the patient, or if it is questionable whether the results will be positive. Also, the patient may doubt the utility or the need for improving self-management. Inviting the patient to participate as a partner in the communication process is the starting point. Although the patient may experience a threshold to participate, inviting the patient and (increasingly) involving him in the communication process is desired. As for the patient, it is clear what is expected of him, as a rule, each patient takes on the role of partner and has the experience that self-determination, autonomy, and independence are great things for him.

Using a patient card can give the patient's participation a helping hand, for example, a patient card with personal data such as blood pressure, cholesterol levels, and follow-up consultations. But also, movement schedules, a food diary or remuneration plan may be effective in improving the patient's cooperation. As a result, the patient's commitment and compliance, and his satisfaction, increase.

5.26 Intervention Mapping, Step 5: Implementation Plan—Facilitation of the Self-Management Intervention

In the implementation plan, you describe not only how the self-management intervention is to be carried out, but also embed the self-management intervention in the care provided, what should result in better education procedures and better communication between the relevant professional groups. For example, all nursing professionals explore systematically in the assessment the patient's specific education needs.

Continuity and coordination of patient education:

- Technological developments.
- Professionals' professionalization in specific specialist part areas.
- Epidemiological developments, such as aging and hazing.
- Developments in government policy.
- Developments in the organization of care facilities.

Coordination and continuity of care with regard to patient education and promoting self-management are important. This interest is expected to increase even further with technological developments in care and treatment. Also, the further professionalization in specialist areas further increases the importance of coordination and continuity. Epidemiological developments such as aging and hazing, in addition to the developments in government policy and in the organization of care facilities, ask for targeted attention to coordination and continuity. These factors regarding continuity and coordination of patient education affect the position and role of the patient.

Good coordination and continuity of education are indispensable, because the implementation of patient education and promoting self-management should be more systematic, more efficient, and more closely following an efficient execution plan. Patient education is often inconsistent and does not always meet the educational needs of the patient. Patient education is often not a fixed part of the treatment and care, has deficiencies and is referred to by health care providers as "in between" other tasks. There is often too little coordination between health care providers and the quality is highly personal. One health care provider may be more adept at giving good education than another.

Patients with chronic health problems often need multiple health care providers to support them in their self-management. The harmonization and coordination between care providers is rarely well matched. About half of the patients with chronic health problems reported contacts with at least three different health care providers. These patients indicated that they had been given conflicting lifestyle or health advice relating to self-management. The health care providers themselves also indicated that supporting self-management for them is more difficult in patients with chronic conditions compared with other patient groups. These health care providers reported that supporting the self-management of patients with chronic health problems is not only more difficult, but also less satisfying (McGowan 2012).

Do good patient education and disease prevention require cooperation between health care professionals? Patient education and disease prevention place a burden on the organization of the health care establishments and on the cooperation between the health care providers. Effective coordination is aimed at promoting continuity in patient education – both intra- and interdisciplinary. The task and function of nursing professionals are ideally suited to the important role they play in organizing and coordinating education. There is good continuity, as the patient education the patient receives is consistent and without flaws or overlap.

The continuity of patient education can also be improved by applying guidelines. Guidelines give direction to the actions of health care providers and are generally valid for certain professional group. Using guidelines in care increases quality, but may inhibit timely renewal. The continuity of the education may also be improved by protocols. When protocols also integrate patient education, integrated care and treatment protocols arise. In these protocols improving self-management is integrated in the care sector. For the nursing professional and her professional group, this means that patient education has a clear place in care. To carry out guidelines and protocols, it is essential that health care providers have sufficient expertise in the fields of patient education and self-management. It requires health care providers to not only have good communication skills, motivation, and knowledge, but also a positive attitude and a predicted high self-efficacy. In addition, the health care providers themselves should agree that patient education and self-management are important for providing quality care to the patient. Also, the coordination between health care providers – who discusses what and when? – is important for the effectiveness of the patient's self-management. Nursing specialists and transmural nursing professionals are becoming increasingly important for supporting the coordination and continuity of patient education and self-management. A last way to improve the continuity of the patient education covers the role of the patient.

Patient education should not only have to start from the needs of the patient and should be tailored to the unique patient situation, but the patient should be invited to continually participate in the treatment and care process, so that the patient also expects to obtain the desired education.

- **Depression and self-management.** If the patient with diabetes is limited because of depression, he will be much less able to play an active role in his self-management. Higher levels of depression lead to a lower level of motivation to perform self-management (Du and Yuan 2010).

5.27 Intervention Mapping, Step 6: Evaluation Plan

In step 6 of intervention mapping, you write the evaluation plan for the self-management intervention. In the evaluation plan, you look back at the formulated goals for the intervention, described in performance and change objectives, and at the possible goals aimed at changing exogenous environmental factors. In your evaluation plan, it is described how the self-management intervention is going to be evaluated.

With the process evaluation, you want to figure out why the self-management has been effective or not. In the impact evaluation, it is figured out at what level effects can be shown. Did social–cognitive determinants change? Were patients able to start and improve their desired self-management-behavior? Were patients able to sustain self-management-behavior (for 3 months, after 6 months)? Did patients experience more control over their (chronic) health problem? Were patients able to give the (chronic) health problem a place in their lives? Are patients satisfied with the self-management support? Are patients experiencing greater well-being, a better quality of life? Very importantly, at what level is an actual change in self-management behavior seen, and is this at the level of the preservation of long-term behavior?

The key questions should be whether the self-management intervention has led to a change in the unwanted behavior, and led to a reduction in (the consequences of) the health problem (Kok et al. 2001) (for a closer insight into intervention mapping step 6, see Chap. 4, Sect. 4.12).

What indicators are useful in detecting effect in the evaluation plan? To show an insight into (health) behavior, we looked at the theory of planned behavior with the described social–cognitive determinants of intention and behavior (for a closer insight, see Chap. 4, Sect. 4.5.1). In the evaluation plan, improvements or at least changes in social–cognitive determinants can give important indications of changes emerging from the self-management intervention.

The social–cognitive determinants intention and health behavior are indicators that determine the effectiveness of an intervention, for example, planning and implementing the monitoring of symptoms or movement exercises. Perceived behavioral control and self-efficacy is another important indicator for measuring the effectiveness of an intervention, as is the use of health care services. In a review (Du and Yuan 2010), it was revealed that self-efficacy is the main indicator of self-management outcomes. Improved and increased self-efficacy of the patient is a

prerequisite for being able to achieve the goals of self-management and is also a condition for maintaining the goals for lifestyle changes and behavioral change. The type of health problem also plays a role in establishing the effectiveness of an intervention. In asthma-related interventions, the focus is often on the prevention of the acute manifestations of the health problem, the monitoring of symptoms, and the appropriate use of medication. In diabetes, the aim is to change lifestyle and self-monitoring. In arthritis, on reducing pain and improving physical and psychological functioning are important (Newman et al. 2004 in: Du and Yuan 2010). The health status may also be an indicator, for example, of one's own assessment of health, pain, discomfort, fatigue, depression, and social restrictions due to the health problem.

5.28 Training: Model Supporting Patient Self-Management

Below training is described to improve the self-management behavior of a patient with a specific health problem. When using the steps supporting patient self-management you will be able to change the behavior of the patient in seven successive steps, starting with risk perception, changing attitudes, handling social influence, and increasing your patient's self-efficacy; this can lead to a change and improvement in self-management when you make use of coping planning followed by action planning in your cooperation process with the patient. The method is relatively easy to use because it is based on one strategy, asking open-ended questions. Because one strategy is used, the steps supporting patient self-management fit the regular skills and communication styles of the nursing professionals.

What will be learned: you learn to explore the patient's needs, you learn to develop a relationship with the patient with an accent on exchanging mutual information and education, you learn to explore every step in the model of supporting patient self-management together with the patient and to support the patient going through the steps in the direction of improvement in self-management; you learn to see important difficulties in each step and learn how to cope with that; you learn to see the reasons why some patients are not able to walk along with you and what the reasons might be why self-management is not improved; you learn to see the reasons why people are able to change and improve self-management behavior; using the steps supporting patient self-management teaches you to see that not every patient is able to improve and change his self-management, that a break or waiting for better circumstances is needed; you learn to see that the patient may circle through the model of supporting patient self-management, not always making process, but that you have to go back to a previous stage.

How much training is needed to learn the steps supporting patient self-management? Depending on your experience working together with patients, it will take three separate 2-h sessions accompanied by guided feedback in sessions 1 and 3.

5.28.1 Training 1: Step Supporting Patient Self-Management—Intake and Risk Perception

Introduction

You do your intake and assessment together with the patient as you always do, and combine this with questions from a guideline, for example, the guideline for cardiovascular risk management. You work out that the patient realizes that he has a personal health risk, for example, cardiovascular risk factors—he is not physically active and has an inactive lifestyle.

You work out that the patient understands the relationship between the health problem or risk factors for a health problem, for example, cardiovascular risk factors such as high blood pressure, high waist circumference, and the desired behavior change, for example, movement behavior, exercising more. The patient should make a personal risk assessment, accept, and remember this.

Background

If a patient has sufficient knowledge about the relationship between the health problem and his unhealthy behavior (for example, physical inactivity and low physical fitness), and makes a good estimate of the personal risk (risk perception), the chances of success of the self-management intervention is larger. It is best if the patient makes an assessment of the risk he runs with the health problem.

Goals

The patient knows he is at risk for a specific disease or health problem (for example, cardiovascular diseases), and understands the relationship with the specific behavior (for example, moving behavior).

Discussion together with the patient

"In this conversation, it is important that I get to know you and that you know what you can expect from me. We start with the intake, then I would like to comment in more depth on your health problem."

Ask your questions.

"You have come here (with reference, etc.). Can you tell me what you already know about (health problem)?" (Patient tells).

Result: "it is true what you are saying (about the health problem), namely that ... (repeat what the patient told about the health problem). Do you think you run a great risk of ... (this health problem)?"

"I understand that it is not pleasant to hear, but there is cause for concern if (you do not adjust your lifestyle/ start with increasing your movement behavior). This does not have to be an insurmountable problem, I can help you to change your (lifestyle)."

Lifestyle advice is generally not given at this moment, but follow your own routine. Always set open questions to increase the patient's involvement, this gives the patient the feeling that he is a valuable interlocutor, and can participate.

5.28.2 Training 2: Step Supporting Patient Self-Management—Attitudinal Change

Introduction

For attitude change, it is important that the patient wants to change his self-management behavior. Attitudinal change is about advantages and disadvantages; mirror of reality; and rewards. You are trying to get an insight into whether the patient wants to change, and later on to fill in together with the patient a score on the wanting scale. You work out that the patient can rank advantages and disadvantages in both the short and long term, by filling in with the patient the advantages/disadvantages matrix. You work out that the patient ranks the benefits as being more important than the disadvantages.

Background

If a patient has positive expectations about the outcomes of new or improved self-management behavior (positive outcome expectations), the greater the chances of success of the intervention. A change in attitudes is that the patient will get a realistic view of the advantages and the disadvantages in both the short and long term, related to the self-management behavior.

Try to make a connection with existing view of the patient. What are the benefits for the patient to stop his behavior? For example, what are the benefits of moving more? What are the benefits for the patient in the short term and what are those in the long run? What are the disadvantages for the patient in the short (and long) term of changing his behavior? For example, what are disadvantages of moving more? Each patient has his own considerations whether or not to perform the desired self-management behavior. Health considerations are rarely the most important ones for the patient.

Goals

The patient recalls the pros and cons of the "new" self-management behavior, for example, of getting more exercise, in both the short and the long term. The benefits of the "new" behavior are seen to be more important than the disadvantages. For example, the benefits of getting more physical exercise weigh heavier than the disadvantages. For this, you use the matrix for advantages and disadvantages together with the patient.

The patient states the degree to which he wants to change his behavior by filling in the so-called want scale. By using this scale, the patient indicates whether or not he really wants to change his behavior. The want scale has ten steps running from "do not want to change my behavior, for example, movement behavior" (step 1) to "do want to change my behavior, for example movement behavior" (step 10; Fig. 5.4).

Discussion together with the patient

You start with your introduction: "how are you?" what are we going to do in this consultation: "In this conversation we look briefly back at our previous conversation. After this, we are going to discuss about benefits you expect if you have changed your self-management behavior, and about which disadvantages you expect, if you have changed your behavior. Is it okay with you if we discuss this today?"

Wanting - scale

○	○	○	○	○	○	○	○	○	○
Not wanting to self-manage	2	3	4	5	6	7	8	9	Wanting to self-manage

	Short term		Longer term	
Advantages self-management	1		1	
	2		2	
	3		3	
	4		4	
Disadvantages self-management	1		1	
	2		2	
	3		3	
	4		4	

Fig. 5.4 (**a**) Want scale. (**b**) Matrix advantages and disadvantages

"In our previous conversation, we talked about the link between your (health problem) and that a (healthier lifestyle) can have the result that ... Now I would like to talk with you about how you can change or improve your self-management (specify the behavior of the patient). Changing behavior is not usually easy."

"If you think you want (your behavior, lifestyle) to change, I can help you with this. So it is not something that you should do all by yourself. We also know from other patients that a helping hand can be pleasant. I will come back to this at the end of the conversation. Now I would like to discuss what benefits you can obtain when you change your behavior. What are for you the advantages of changing your behavior? What are the disadvantages? Do you agree?"

Start with filling out the advantages and disadvantages matrix. Show this matrix to the patient, and ask: "If you changed your self-management behavior, what would really be an advantage in the long run? Can you also think of short-term benefits?". And for the disadvantages: "If you changed your behavior, what would really be a disadvantage in the long run? Can you also think of short term disadvantages?"

It is necessary to discuss the advantages and disadvantages with the patient by asking open-ended questions. Fill out the schedule together, or invite the patient to write.

"Now that we have completed this schedule, and we view it again, are the benefits or the disadvantages especially important?"

If the patient sees the disadvantages in particular: "We let this schedule now rest. Maybe it is an idea if you look at the schedule at home again and think about the pros and cons. The next time we meet, we talk about where we are now. It is important that you do not think that changing your behavior of lifestyle (for example,

moving more) does not fit into your life or is nothing for you. Many patients wonder if another lifestyle really suits them."

If the patient sees the benefits in particular: "That's good to hear, and indeed you mention ... Because you rank the benefits highly, I infer that you (your behavior) want to change, is this correct? Or is it too early to draw this conclusion?" Invite the patient to say it in his own words, the pros of changing the self-management or health behavior, in addition to the cons.

Next, ask the patient to indicate on the scale to what extent he is prepared to change his behavior or change his lifestyle. For example, ask him to indicate that he will start moving: "can you specify on a scale of 1–10 if you want to change your (behavior, lifestyle, for example, moving behavior)?"

The score on this scale displays whether the patient really wants to change his behavior or lifestyle. If the score is low (0–5), then the following consultation should also focus on attitude change. If the score is higher, you will progress and continue with the next step: dealing with the social environment.

End the conversation. Give a brief summary.

5.28.3 Training 3: Step Supporting Patient Self-Management—Resisting Social Pressure and Seeking Social Support

Introduction

Now it is time to have a closer look at the patient's social environment. This includes the patient dealing with social pressure, seeking social support, and being able to be resilient. Together with the patient, enter a schedule of the social environment in which an inventory is made of people living near the patient and their influence on the patient's health behavior. You work out that the patient learns to deal with social influences from the environment.

Background

If a patient starts searching for (more) social support or strengthens social support (seeking social support), and improves resistance to social pressure (resisting social pressure), the chance that the patient will implement the "new" self-management behavior increases, for example, the patient is going to move more.

Which people (from the social environment) provide the patient with a helping hand? Which people ask an able-bodied reaction, so that the patient is not thwarted in the execution of the new behavior? If people are uncertain as to their own views, they tend to compare them with those of people with whom they can identify. A positive or negative influence from the social environment is the consequence.

Goals

The patient recognizes resistors from the environment and is resilient; the patient recognizes those people who can give him support and is able to invite people to support him.

Discussion together with the patient

You start with your introduction: "How are you?" Then look back at the previous conversation: "In the previous conversation we had together, we looked at the advantages and disadvantages of changing self-management or health behavior. We will look back at these pros and cons of a behavioral change. In this talk, I would also like to discuss what the people around you are saying if you are going to (change your behavior, lifestyle, for example move more), and if there are people in the close area around you who can support you. From experience, I know that the people at home may not like to see you change your behavior or lifestyle. We will begin by taking a look at the schedule with pros and cons, okay?"

The following two options may occur:

The disadvantages of changing the self-management behavior were shown to be more important: talk again about pros and cons. With this, you go back to step 2—attitudinal change.

The benefits of changing the self-management behavior were shown to be more important: go back to the "I want-scale" and check if the score has changed compared with the last consultation. The score on this scale displays whether the patient really wants to change his behavior. "Can you specify on a scale of 1–10 if you want to change your (behavior)?"

Then, go on to explore the social influence from the near surroundings of the patient by asking open questions. "Have you already spoken with others about (the new behavior, other lifestyle, for example, to move more)?" (Patient gives a reaction.) "Let's check if there are other people, with whom you have a good relationship, who think that you should (move more). What are their reactions?"

Discuss together with the patient the schedule for assessing the social influence: who provides support, when and how? Who applies social pressure, when and how? Continue until the review is complete (Fig. 5.5).

"When I go to read this review, I note that: for social support you can build on ... and that the social support would be improved if ... (opinion of the patient). And I note that you expect social pressure from ... Social pressure can be handled by ... (opinion of the patient).

If the patient does not know any solutions for improving social support or dealing with social pressure, a brief talk may be suitable to learn new social skills. You can start with: "can you give an example of a situation in which you expect to experience social pressure? What can you possibly do to handle the negative influence, but that enables you to (new behavior/other lifestyle/move more?" Do you think that this (strategy to handle social pressure) helps?". Also: "can you think of a person who is able to support you, when you start to … (new behavior/other lifestyle/move more)?"

Join the conversation with a brief summary, and specify that you will come back to the above discussion. Emphasize that it is important for the patient to show up at the next visit.

Fig. 5.5 Matrix of social influence

5.28.4 Training 4: Step Supporting Patient Self-Management—Perceived Behavioral Control and Self-Efficacy

Introduction

Self-efficacy is about being able to learn about and implement the (practical) skills. Self-efficacy is necessary to sustain the motivation process. This requires the patient to gradually incorporate the skills necessary for the "new" behavior, for example, learning the skills needed to improve his movement behavior. Practice makes perfect, and the observation of others can be helpful. You work out that the patient learns the desired skills.

Background

If a patient learns skills step by step (guided practice), the chance of success is greater. This is about the assessment the patient makes if he thinks he is able to perform the "new" behavior, for example, the movement behavior. The patient must experience that he can, causing confidence in own abilities to increase.

Goals

The patient learns the skills to perform the desired behavior, self-management behavior or part of a self-management behavior.

Discussion together with the patient

Introduction: "How are you doing? What are we going to do today? In this conversation, we discuss the skills needed to perform (the desired behavior, or lifestyle). It is not that you should be able to implement it immediately, but you will be (skilled) in the steps. Tell me, what seems easy?" And later in the interview: "What seems harder?" (Fig. 5.6).

Make an inventory of how the patient looks at the skills to be taught. Show the skills in a schema and fill in the different steps for every skill the patient has to learn.

For example, possibly during the second consultation: start with the question "What are we going to do in this consultation?" In this conversation, we look briefly back on our previous conversation. We are then going to start learning (the skill). Here we go now. Do you agree?"

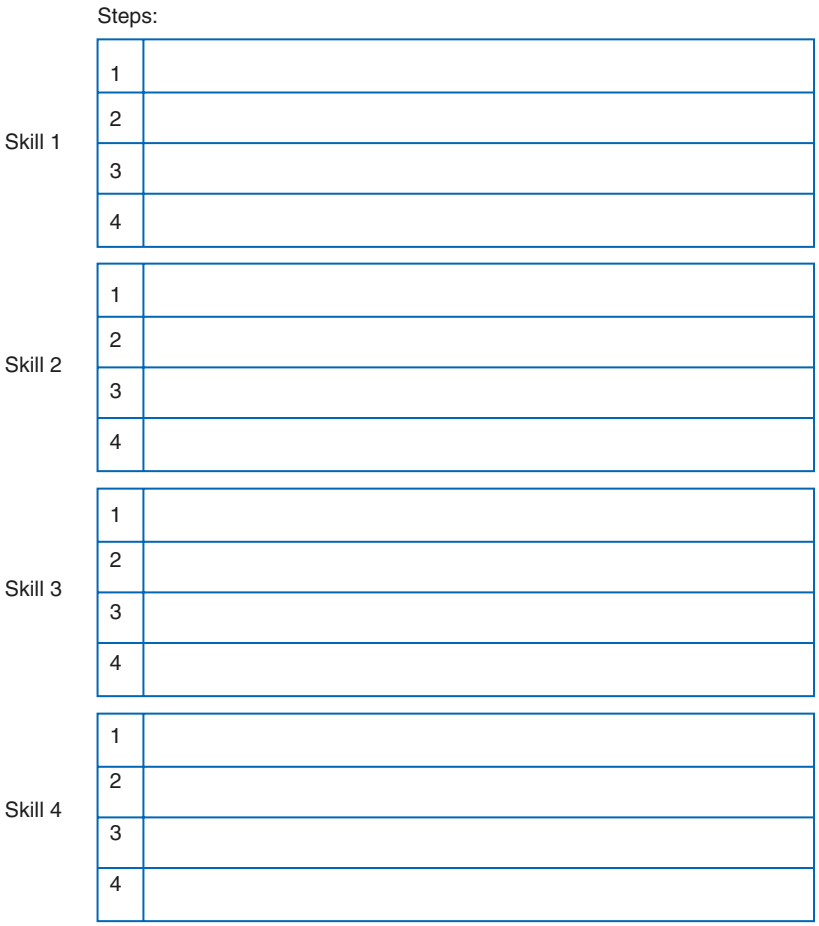

Fig. 5.6 Matrix of self-efficacy skills and sub-skills—how to learn

5.28.5 Training 5: Step Supporting Patient Self-Management—Planning Behavior Change Using Action Planning

Introduction

Changing the intention of the patient involves: actually planning the "new" behavior. Together with the patient you work out that the patient describes his own goals. You work out that the patient really intends to change his behavior, improve his self-management behavior. This means that the patient has a positive intention for the desired behavior and that the patient formulates his own goals. You ask the patient to describe the goals, so that he can answer the questions: what is the purpose? What will you do? When? How often? What is your preparation?

Background

If a patient formulates his goals himself, the patient is "owner" of the goals (action-planning). If a patient is preparing (preparatory behavior) to carry out these goals, the chance of success is greater. Changing the intention involves the formulation of (a) target (or targets) with which the patient indicates that he is planning the "new" behavior. For example, targets to plan to be more physically active: what are you going to do, when, how often? Changing the intention also involves preparing to carry out (preparatory planning). Also discuss how the patient can get prepared to carry out his purpose. Obtaining an image of the "new" behavior by using: if ..., then I go …. For example, if (I come home after …, then I (go walk the dog for an hour).

Goals

The patient is really going to change his behavior, that is, he has a positive intention to implement the "new" behavior or improve his self-management. For example, the patient has a positive intention to become physically active three times a week and starts today to move more (Fig. 5.7).

Action plan, goals

Goal 1

What is the goal?	
What are you going to do?	
When?	
How often?	
Preparation needed?	

Goal 2

What is the goal?	
What are you going to do?	
When?	
How often?	
Preparation needed?	

Fig. 5.7 Action planning—goals: what, when, how often, and be prepared

Discussion together with the patient

Start with "what are we going to do in this consultation? In this talk, we will discuss the goals you want to achieve to improve your self-management. What is your goal, meaning: what can you do? When? How often? And what is needed to prepare? It is important that these goals are properly adapted to what you want. These goals are really your personal goals to help you get started."

Describe the goals together with the help of the format.

Describe together what is needed to prepare.

5.28.6 Training 6: Step Supporting Patient Self-Management—Behavior Change and Handling Barriers Using Coping Planning

Introduction

For behavioral change, it is a question of: doing; dealing with barriers; and positive feedback. Together with the patient, you as a nursing professional, make an inventory of barriers. In addition to this inventory, you discuss ways of handling each barrier. Together with the patient you make an overview of the barriers. The patient fills his barriers in a schedule, with a way of coping with each barrier. Together with the patient, you work out that the patient bypasses barriers and that the patient learns to deal with barriers that obstruct a (further) behavior change or improvement in the self-management.

Background

If a patient himself recognizes and cleans up barriers (diminishing barriers) and is equipped with feedback (provision of feedback), the patient may make a change in self-management behavior. Planning to change your behavior (for example, start moving) can be stopped by barriers. Barriers are all kinds of unforeseen circumstances that prevent (even though the patient has his plan) the patient from carrying out the new behavior.

Goals

The patient is able to handle barriers that obstruct in the planning of the behavior change. The patient can recognize barriers, find ways of handling barriers and is capable of bypassing barriers and implementing the desired behavior or self-management.

Discussion together with the patient

Introduction: "If you look back on the past period, did you manage to sustain the behavior, or lifestyle, for example, with regard to moving? I understand that the (new behavior) pleases you because ... (list positive factors). In addition to these positive factors, most people encounter also some negative factors. Do you encounter any negative factors? Explore these by discussion (search together for barriers to the new behavior). In this talk, I want discuss with you these difficult circumstances in which, even though you are planning to move (or carry out some other new behavior of lifestyle), this sometimes fails. What is an important barrier? If we have a look at this now (barrier 1), what would help you (to handle the situation)?" (Fig. 5.8).

Coping planning, barriers

	Barriers	How to handle barriers
1		
2		
3		
4		

Fig. 5.8 Coping planning—barriers and how to handle them

Enumerate the barriers with open questions. List possible solutions for each barrier: "Which solution seems easy?"

Fill the barriers in a schedule and ways in which to cope with it.

End the conversation with a summary. Make an appointment on how to deal with barriers.

It is important is to prepare the patient for relapse: "in the next period, it is possible that you will have what the experts call a relapse. You notice then, that you stopped the behavior of lifestyle change, for example no longer moves. This happens to a lot of people when they are trying to change their behavior or lifestyle. It is important that you do not think you are lost, but it is important to arrange support. What can support you (support looking for/... call or mail/from the practice, etc.)?"

5.28.7 Training 7: Step Supporting Patient Self-Management—Sustaining Behavior Change

Introduction

Sustaining the behavior change includes: continuing the behavior; prevention of relapse; and having contact by telephone. Together with the patient, you work out that the patient will sustain the "new" behaviors and start coping with relapse, until behavior retention has been reached. The patient ranks on a scale of 1–10 the extent to which the new behavior has become part of his lifestyle and is incorporated into daily living. You ask the patient in the consultation to fill in a schedule with decline moments and possible plans for solutions, and with elements of the behavior that have become routine and plans to maintain those routines.

Background

If a patient has his own solutions for relapse (coping planning), further strengthening the behavioral change can be worked on. This includes the continuous insistence of the new behavior. Prepare the patient that he may fall back into old routines. Relapse happens to everyone. Search together with the patient for a way to tackle decline. For example, the next day picking up the behavior change again. It requires a lot of time to build the desired "new" behavior of the patient into his daily activities.

Goals

The goals are for the patient to handle a relapse into the undesirable behavior (moving less or stopping movement), and is able to continue the behavior change when a relapse has occurred, because he knows how to handle the relapse.

Discussion with the patient

Introduction: "If I (professional) look back to the times when I have been sitting here with you, then I think I may conclude that you have achieved a lot. You have been moving (or other new behavior) and … (give positive feedback). Are you happy about this?

Let the patient indicate on the scale the extent to which the new behavior has become a habit for him.

Now it is often the case that, over time, you might find that it is (again) hard to ... (the new behavior). We have discussed this. Did this occur? Is it hard to keep on track with the new behavior, or lifestyle change, for example, moving three times a week (make a clear connection with the person's goals).

"As I said, you already came a long way (with the new behavior, or new lifestyle). In this talk, we'll look at fallback moments and see what solutions may be available to handle these relapses. You told me earlier about ... (relapse time 1). What did you do? Was this shown to be a good solution?"

Make an inventory of the fallback moments together with open questions and the possible solutions. Which solution is the most likely?

Make an appointment to discuss how the patient can handle possible relapse: "it's good to handle a relapse by ... (solution), if you have a relapse into ... (old behavior)?" (Fig. 5.9).

Use with the patient the got-used-to scale. Discuss if and how much the new behavior has been incorporated into the patient's lifestyle and health behavior. On a scale from 1 to 10, are you satisfied with how you use your new behavior to improve your self-management? 1 indicates self-management not incorporated in daily life, and 10 indicates that self-management is incorporated into daily life and this is okay for me to handle.

End the conversation with a summary and create a new appointment or close the patient's coaching.

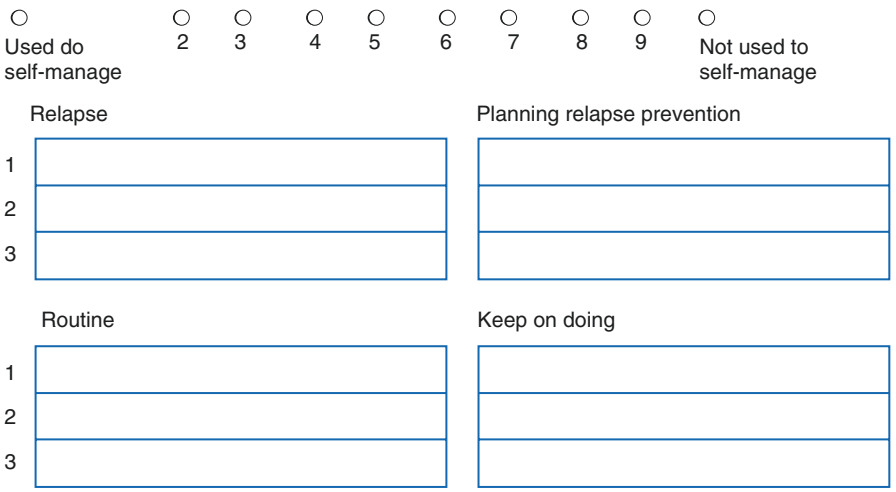

Fig. 5.9 High-risk situations and how to handle them, and the got-used-to scale

References

Barlow J, Wright C, Sheasby J, Turner A, Hainsworth J. Self-management approaches for people with chronic conditions: a review. Patient Educ Couns. 2002;48(2):177–87.

Bartholomew LK, Parcel GS, Kok G, Gottlieb NH, Fernández ME. Planning health promotion programs: an intervention mapping approach. San Francisco, CA: Jossey; 2011.

Bartholomew EIK, Markham CM, Ruiter RAC, Fernandez ME, Kok G, Parcel GS. Planning health promotion programs, an intervention mapping approach. Hoboken NJ: Wiley; 2016.

Bennett P, Conner M, Godin G. Changing behaviour to improve health. In: Michie S, Abraham C, editors. Health psychology in practice. Milton, QLD: Blackwell Publishing; 2004.

Bensing JM, Verhaak PFM, van Dulmen AM, Visser AP. Communication: the royal pathway to patient-centered medicine. Patient Educ Couns. 2000;39:1–3.

Boot CRL, van der Gulden JWJ, Vercoulen JHMM, van den Borne BHW, Orbon KH, Rooijackers J, et al. Knowledge about astma and COPD: associations with sick leave, health complaints, functional limitations, adaptation, and perceived control. Patient Educ Couns. 2005;59:103–9.

Breemhaar B, Van den Borne HW, Mullen PD. Inadequacies of surgical patient education. Patient Educ Couns. 1996;28(1):31–44.

Bridson J, Hammond C, Leach A, Chester MR. Making consent patient centred. Br Med J. 2003;327:1159–61.

Budenz DL. New insights on enhancing adherence to topical glaucoma medications. Ophthalmology. 2009;116(11):S43–7.

Coster S, Norman I. Cochrane reviews of educational and self-management interventions to guide nursing practice: a review. Int J Nurs Stud. 2009;46:508–28.

Damoiseaux V. 'Patiëntenvoorlichting, een nadere begripsbepaling' en 'Determinanten van het communicatieproces'. In: Damoiseaux V, Visser AP, editors. Patiëntenvoorlichting, een interdisciplinaire benadering. Assen/Maastricht: Van Gorcum; 1988.

Damoiseaux V, van der Molen HT, Kok GJ. Gezondheidsvoorlichting en gedragsverandering. Van Gorcum: Assen; 1993.

Delnoij DJM. Zorgvrager van de toekomst. In: Bakker DJ, Post D, Polder JJ, Verkerk MJ, editors. Een vitale toekomst, de gezondheidszorg in 2040. Amsterdam: Reed Business; 2012.

Dennis SM, Harris M, Lloyd J, Powell Davies G, Faruqi N, Zwar N. Do people with existing chronic conditions benefit from telephone coaching? A rapid review. Aust Health Rev. 2013;37(3):381–8.

DiClemente CC, Prochaska JO. In: Miller WR, Rollnick S, editors. Motivational interviewing. Preparing people for change. 2nd ed. New York, NY/London: Guilford Press; 2002.

Du S, Yuan C. Evaluation of patient self-management outcomes in health care: a systematic review. Int Nurs Rev. 2010;57(2):159–67.

Edwards AGK, Naik G, Ahmed H, Elwyn GL. Personalised risk communication for informed decision. Cochrane Database Syst Rev. 2013;(2):CD001865.

Elwyn G, Edwards A, Britten N. "Doing prescribing": how doctors can be more effective. Br Med J. 2003;327:864–7.

Falvo DR. Effective patient education. A Guide to increased compliance. Sudbury: Jones and Bartlett Publicers Inc.; 2004.

Green LW, Kreuter MW. Health promotion planning. An educational and ecological approach. Boston, MA: McGraw-Hill; 2005.

Harrington J, Noble LM, Newman SP. 'Improving patients' communication with doctors: a systematic review of intervention studies. Patient Educ Couns. 2003;52(1):7–16.

Huiben MEM. Het Chronic care model in Nederland. Achtergrondstudie uitgebracht door de Raad voor de Volksgezondheid en Zorg bij het advies 'Bekwaam is bevoegd'. Den Haag: RVZ; 2011.

Kaufman N. Internet and information technology use in treatment of diabetes. Int J Clin Pract. 2010;166:41–6.

Kingshuk P, Eastwood SV, Michie S, Farmer AJ. Computer-based diabetes self-management interventions for adults with type 2 diabetes mellitus. Cochrane Database Syst Rev. 2013;(3):CD008776.

Kohl LF, Crutzen R, de Vries NK. Online prevention aimed at lifestyle behaviors: a systematic review of reviews. J Med Internet Res. 2013;15(7):e:146.

Kok G, van den Borne B, Mullen PD. Effectiveness of health education and health promotion; meta-analyses of effects studies and determinant of effectiveness. Patient Educ Couns. 1997;30:19–27.

Kok G, Schaalma H. Using theory in psychological interventions. In: Michie S, Abraham C, editors. Health psychology in practice. Milton, QLD: Blackwell Publishing; 2004.

Kok G, Schaalma H, Brug J. Planmatige gezondheidsvoorlichting: een inleiding. In: Brug J, Schaalma H, Kok G, Meertens RM, van der Molen HT, editors. Gezondheidsvoorlichting en gedragsverandering. Een planmatige aanpak. Assen: Van Gorcum; 2001.

Legare F, Witteman HO. Shared decision making; examining key elements and barriers to adoption into routine clinical practice. Health Aff. 2013;32:276–84.

Lerman I. Adherence to treatment: the key for avoiding long-term complications of diabetes. Arch Med Res. 2005;26:300–6.

Louw A, Diener I, Butler DS, Puentedura EJ. Preoperative education addressing postoperative pain in total joint arthroplastry: review of content and educational delevery methods. Psychother Theor Pract. 2013;29(30):175–94.

Marks DF, Murray M, Evans B, Willig C, Woodall C, Sykes C. Health Psychology theory, research and practice. London: Saga Publications Ltd.; 2005.

Matthias MS, Salyers MP, Frankel RM. Re-thinking shared-decision making: context matters. Patient Educ Couns. 2013;91:176–9.

McGowan PT. Self-management education and support in chronic disease management. Prim Care. 2012;39(2):307–25.

McWilliam CL, Brown JB, Stewart M. 'Breast cancer patients' experiences of patient-doctor communication: a working relationship. Patient Educ Couns. 2000;39:191–204.

Mesters I, van den Borne B, de Boer M, Pruyn J. Measuring information needs among cancer patients. Patient Educ Couns. 2001;43(3):255–64.

Miller WR, Rollnick S. Motivational interviewing. Preparing people for change. 2nd ed. New York, NY/London: The Guilford Press; 2002.

Miller WR, Rollnick S. Motivational interviewing, helping people change. New York: Guilford Press; 2012.

Nijkamp MD, Ruiter RAC, Roeling M, van den Borne B, Hiddema F, Hendrikse F, et al. Factors related to fear in patients undergoing cataract surgery: a qualitative study focusing on factors associated with fear and reassurance among patients who need to undergo cataract surgery. Patient Educ Couns. 2002;47:265–72.

Norris SL, Engelgau ME, Narayan KMV. Effectiveness of self-management training in type 2 diabetes. A systematic review of randomized controlled trials. Diabetes Care. 2001;24:561–87.

Ong LM, Visser MR, Lammes FB, de Haes JC. 'Doctor-patient communication and cancer patients' quality of life and satisfaction. Patient Educ Couns. 2000;41(2):145–56.

Parchman ML, Arambula-Solomon TG, Noel PH, Larme AC, Puch JA. Stages of change advancement for diabetes self-management behaviors and glucose control. Diabetes Educ. 2003;29(1):18–34.

Paul S. Hospital discharge education for patients with heart failure: what really works and what is the evidence? Crit Care Nurse. 2008;28(2):66–82.

Quaschning K, Korner M, Wirtz M. Analyzing the effects of shared desicion making, empathy and team interaction. Patient Educ Couns. 2013;91:167–75.

Ramadas A, Quek KF, Chan CK, Oldenburg B. Web-based interventions for the management of type 2 diabetes: a systematic review of recent evidence. Int J Med Inform. 2011;80(6):389–405.

Rubak S, Sandbaek A, Lauritzen T, et al. Motivational Interviewing: a systematic review and meta-analysis. Br J Gen Pract. 2005;55(513):305–12.

Ryan PR. Integrated theory of health behavior change: background and intervention development. Clin Nurse Specialist. 2009;23(3):161–72.

Sassen B, Kok G, Mesters I, Crutzen R, Cremers A, Verhees L. A web-based intervention for health professionals and patients to decrease cardiovascular risk attributable to physical activity. JMIR Res Protoc. 2012;1(2):e21.

Schaalma H, Kok G. Decoding health education interventions: the times are a-changing. Psychol Health. 2009;24(1):5–9.

Sigurdardottir AK, Jonsdottir H, Benediktsson R. Outcomes of educational interventions in type 2 diabetes: WEKA data-mining analysis. Patient Educ Couns. 2007;67:21–31.

Viswanathan M, Golin CE, Jones CD. Interventions to improve adherence to self-administered medications for chronic diseases in the United States; a systematic review. Ann Intern Med. 2012;157(11):785–95.

VWS. Gezondheid dichtbij; Landelijke nota gezondheidsbeleid. Den Haag: Ministerie van Volksgezondheid, Welzijn en Sport; 2011.

Wagner EH, Austin BT, Von Korff M. Improving outcomes in chronic illness. Manag Care Q. 1996;4(2):12–25.

Wallerstein N. What is the evidence on effectiveness of empowerment to improve health? Copenhagen: WHO Regional Office for Europe (Health evidence Network Report); 2006.

The Nursing Professional as a Health Coach

6

Nursing professionals provide comprehensive care, based on evidence, using health and patient education as an intrinsic part of it. The following are described with regard to the nursing process: the (needs) assessment; the diagnosis; the planning of nursing and medical; stating objectives; implementation; evaluation (Sect. 6.1). Nursing diagnoses aimed at promoting patient self-management, the PES structure, are the health perception–health management pattern, cognitive–perceptual pattern, self-perception–self-concept pattern, coping–stress tolerance pattern, and value–belief pattern (Sect. 6.2). Health patterns aimed at promoting health can be specified for patient self-management (Sect. 6.3). Nursing interventions aimed at promoting patient self-management are in the health behavior domain, etiological factors and symptoms, potential problems, and wellness-related interventions (Sect. 6.4). Nursing classification systems and health and patient education are the Nursing Intervention Classification (NIC) and the Home Health Care Classification developed by Saba et al. (1991) (Sect. 6.5). Nursing interventions aimed at promoting patient self-management should use intervention mapping. With the intervention mapping protocol, you develop professional self-management interventions for health promotion and disease prevention (Sect. 6.6). Implementing nursing interventions aimed at promoting patient self-management, is about the role that the nursing professional plays in promoting patients' self-management. How well do nursing professionals support the patients' self-management? Is the effectiveness of patient self-management dependent on how well the nursing professional is able to promote self-management? The nursing professional is described as a health coach. The professional plays an important role as a health coach to support the patient in his self-management. To improve your skills as a health coach,

B. Sassen, *Nursing: Health Education and Improving Patient Self-Management*,
DOI 10.1007/978-3-319-51769-8_6

you take a closer look at: you motivation to inform and motivate a patient; your personal advantages and disadvantages; the support you receive or do not receive from colleagues; your personal perceived self-efficacy and skills; your action planning for your personal intention; coping planning to handle barriers to behavioral change; sustaining your professional behavior, all to change or improve patient self-management or lifestyle behavior (Sect. 6.7). Finally, there is a separate professional training program for the nursing professional to become a health coach, in which you become a better health coach in seven steps, able to improve and support the self-management and lifestyle behavior of the patient (Sect. 6.8).

Changing the health and self-management behavior of patients is a much more complex process, than previously thought. Nursing professionals often overestimate the extent to which patients have changed their health and improved their self-management behavior. Although nursing professionals are one of the main occupational groups for facilitating health education, they are not always well equipped with proper, evidence-based knowledge and skills to facilitate the patient's self-management properly (Coster and Norman 2009). Nursing professionals wrongly assume that patients change their health and self-management-behavior, because improved self-management would have many benefits, including health benefits, and would increase well-being. A more scientific understanding has taken place within the nursing profession, that has led to a clearer positioning of nursing, both inside and outside the direct workforce and has resulted in diagnosis- and intervention-based nursing. The success of self-management interventions depends largely on the involvement and consent of health care providers (Jordan and Osbourne in: Coster and Norman 2009).

Promoting the self-management of patients is important, so that the patient can carry on his life with his (chronic) health problem. For more control over his life and optimal self-management (within given limits), the patient can give the disease a place in his life, increase the quality of life (as much as possible), and prevent restrictions or other health problems. Changing the health and self-management behavior of patients for health professionals themselves requires a positive attitude of the nursing professional and a personal understanding of the advantages and disadvantages of motivating patients. Changing the health and self-management behavior of the patient requires social support and the possible resistance of nursing professionals against the more negative influences of colleagues and team members. Changing the health and self-management behavior of the patient always requires specific psychosocial and communication skills of the nursing professionals, because although motivating seems easy, this is often not the case in the complex situation of patient needs, informed consent, guidelines, evidence-based practice, health care facilities, and government policy. Nursing professionals would have to fulfill a facilitating and coaching role focused on patient outcomes and patient satisfaction, concordance, and optimal self-management. This requires appropriate skills, together with? Nursing professionals often have working in a multidisciplinairy team of health care providers to motivate the patient.

6.1 Nursing Process, and Health Promotion and Disease Prevention

To improve patient self-management, comprehensive, integrated care is important for nursing professionals. In integrated care, care should be patient-oriented, the patient with his wishes and needs is central, and the patient is self-directing. In integrated care, nursing professionals work proactively from different sectors and organizations together, so that there is a coherent care supply for the patient.

Nursing professionals say that disease prevention and health promotion are important tasks on which they spend a lot of time during each consultation (Sassen 2011). It is important that nursing professionals give each patient health and patient education that fits the needs and the interests of the patient and his specific health problem, and that they do so in a careful and structured way. Education should be an intrinsic part of every meeting and of any consultation with a patient. Education should not be given only incidentally or informing the patient only in specific cases. A relationship of cooperation can emerge, as the nursing professional in any consultation uses the opportunities for patient-specific education, makes an inventory of the patient's self-management needs, invites patients to participate, and discusses questions in a patient-specific way. The effectiveness of nursing care increases, as the nursing professional in each consultation works together with the patient, describes the desired goals, teaches the required self-management skills, tackles barriers together, and gives feedback on progress.

What is the link between the nursing process and health promotion and disease-prevention? The nursing process is a way of thinking and acting that allows nursing professionals to smooth the care process. In health promotion and health education this is identical; the nursing professional works professionaly and methodically. The nursing process is aimed at expanding and promoting health, at preventing health problems and health limitations, and recovering from health problems or dealing with restrictions. The nursing process intends to ensure quality of care. The same applies for health promotion and disease prevention. The purpose of health promotion and disease prevention extends from maintaining health, over the continuum of health, to optimize health within given constraints related to present (chronic) health problems. For health promotion, health interventions are aimed at motivating the people to other, healthier behavior. For disease prevention, self-management interventions are aimed at motivating the patient to implement the desired self-management. Of course, nursing professionals have more strings to their bow than merely education-targeted interventions, but health and patient education has an importance place within all nursing roles and tasks. For good quality care, each professional should work based on evidence-based care and cure, that is, on scientific evidence-based care and treatment.

The nursing professional aims to deal with the whole person, sick or healthy. The nursing professional supports the patient who is ill or is likely to be, and helps him to solve problems or to handle the (consequences of) health problems. The nursing professional helps the patient to adapt to changed circumstances and problems, and

to accept problems that require a permanent adjustment by the patient. Promoting health and preventing disease always play important roles.

In healthy people, your aim as a nursing professional is to prevent health problems and to promote health and well-being. For example, by teaching a healthy lifestyle and self-care strategies, or by supporting decisions that promote healthy behavior. In people who have a health problem, your aim as a nursing professional is to maintain health and to expand health. This includes a large group of people who favor a particular condition, but for whom it comes down to promoting and expanding (aspects of) health that may or may not be directly related to the patient's health problem. For example, a patient after stroke with restrictions may very well benefit from changing unhealthy eating habits. There is then not just a question of education aimed at promoting self-management, but it is also about promoting a healthy lifestyle, expanding health, and avoiding health risks. For good-quality nursing professional care education, this is an important, if not the most important, intervention. This way of improving quality of care improves the quality of life and well-being of the patients.

- **World health report 2013, research for universal health coverage**, reports that a good health care system gives priority to health, and human-centered integrated care should be offered. People-oriented integrated care consists of informing and encouraging people to stay healthy and prevent disease. It is also about the early detection of health problems. Motivated health workers would have to provide health care services that meet the needs of patients and that are offered based on the best available evidence, evidence-based practice.
- The results of the nursing care are central. As the results of nursing professional care are the departure point, the nursing process should be effectively monitored, possibly adjusted, and judged on outcomes. Care-related results should be focused on improving the quality of life, but also recording time and care intensity, so that care not only meets high-quality standards in results-directed care, but also fits the national health policy.

6.1.1 Nursing Assessment, and Health Promotion and Disease Prevention

The first phase of the nursing process is the assessment. The nursing professional makes an inventory of the needs and expectations of the patient and gathers information to identify the patient's problems (and his family, relatives), ultimately to make a care plan. The nursing professional makes an inventory of the current health situation and potential health problems and limitations from the point of view of the patient as a holistic unit. In the assessment, the following questions are to be covered: how does the patient perceive his well-being? What need is there to identify current or potential health problems? What information and education needs are latent? Is there a need to improve lifestyle? Is there a need to improve self-management? What are the health- and self-management behaviors, and do risk

factors play a role? What experience does the patient have in (changing) his health and self-management behaviors? The assessment is performed by asking open-ended questions. For example: "it would help me if you can tell me what you already know about your health problem. Or "it would help me if you can tell me whether you have previously tried to get more exercise, or take your medication twice daily."

The assessment phase in the nursing process is about exploring the health education and self-management needs and the wishes of the patient (and possibly the social environment). You work out that you as a nursing professional understands: the patient's current level of knowledge of the patient; his individual needs; his individual skills; the advantages and disadvantages that the patient connects with self-management; social factors and the impact that they may have on the willingness of the patient to implement health and self-management advice; environmental factors that facilitate or hinder the patient in implementing health and self-management advice; and the complexity of the care–treatment process. The purpose of this is to enable the patient to make decisions about his health, treatment, and care. But you also want to allow the patient to learn to handle his specific health problem and his lifestyle and behavior so that this has a positive effect on his health. If nursing professionals after the assessment state accurate education and self-management-focused nursing diagnoses, and implement nursing interventions based on health education and patient education, this will improve the care process.

6.1.2 Nursing Diagnosis, and Health Promotion and Disease Prevention

The second phase of the nursing process describes the nursing diagnoses. As a nursing professional, you analyze the collected data about the patient after the assessment and identify the current and potential health problems. Then you define the problem, you describe the situation and etiology of the problem, and set priorities. The nursing diagnosis is your professional conclusion based on the first step of data collection. Nursing diagnoses or nursing problems are the concrete descriptions of the care needs of the patient. The nursing professional usually changes the nursing diagnoses during the care process, based on changes in the patient situation and additional data collection. For example, if certain risk factors are going to play a role, such as an increased risk of social isolation. Nursing diagnoses give direction to the further course of the nursing process.

Nursing diagnoses will be related to health and patient education, and be based on the patient's education and self-management needs. A part of nursing diagnosis goes hand in hand with education and self-management. For example, the diagnosis that the patient has pain because of a gallbladder surgery can be reconciled with the diagnosis that the patient has insufficient knowledge and skills to adequately cope with pain. Another example, the diagnosis of the patient with psychiatric limitations is afraid of recording medication use and being in a hospital, can be reconciled with the education-oriented diagnosis that the patient is afraid to lose control over his medication. Nursing diagnoses specifically describe what education and self-management needs the patient has, which self-management skills need to be learned, what behavior obstructs an extension of self-management and stands in the way of health.

6.1.3 Nursing Planning Phase, and Health Promotion and Disease Prevention

Nursing professional planning stands for the what and how of nursing interventions in the nursing process. In the planning phase, in consultation with the patient, goals are formulated and aimed at preventing, reducing or dealing with the health problem. For every actual or potential nursing diagnosis, a goal is formulated in terms of self-management and health behavior and expected results. The whole thing takes shape in a plan. Each goal calls for nursing professional intervention(s), which lead to solving, reducing or dealing with the health problem. For example, for the diagnosis of pain, the goals may be that the patient says that pain is a characteristic of a rheumatic condition, identifies changes in the intensity of the pain, and uses a pain management method in an appropriate manner. The formulated nursing diagnosis gives clear direction to the planning process and to the choice of nursing interventions. This means that the nursing professional formulates one or more outcomes or effects for each diagnosis. A outcome gives direction to the solution and is focused on the condition with a high risk of a nursing diagnosis, or an improvement in the level of well-being for a healthy person.

Also, education- and self-management-oriented targets are formulated with the necessary education-targeted interventions to eliminate the diagnosis. For health and patient education, it is important that there is agreement between the nursing professional and the patient on the goals and that the patients specifies the priority goals. Goals should be related to patients' desired changes in self-management and lifestyle. The planning phase ends when a nursing care treatment plan is developed that can be used in the implementation phase.

6.1.4 Nursing Implementation Phase, and Health Promotion and Disease Prevention

In the phase of the implementation of the care, the nursing interventions are carried out in accordance with the previously established nursing care–treatment plan. This care–treatment plan, with self-management of lifestyle-oriented goals prioritized by the patient, the nursing professional starts to battle the planned actions with the patient. Meanwhile, the nursing professional collects information about the condition of the patient, his needs and feelings, increased knowledge, learned skills, etc., to the nursing process as required to update and complete features. This is certainly true for (patient) education because education will always assume a more concrete form in the course of the care process.

The goal is to reach an optimal level of health and well-being for the patient. The care–treatment plan shows when which nursing interventions get a place in the patient's care–treatment. The nursing interventions are combined with the care and treatment. The goal is to motivate the patient to perform other, healthier (self-management of lifestyle behavior) in collaboration with the patient's conduct, through a systematic and planned change process that the self-management and well-being of the patient to be promoted.

6.1.5 Nursing Evaluation Phase and Health Promotion and Disease Prevention

The nursing process is concluded with the evaluation of nursing care results. Central questions are: Were the goals achieved? Was the nursing care–treatment plan for a specific diagnosis effective? What changes have taken place in the patient in relation to the purpose and behavior outcomes? How do the individual nursing diagnoses relate to the entire care–treatment plan? The evaluation phase completes the nursing process and gives an indication of the extent to which the nursing diagnosis and interventions have been correctly carried out. Data are being collected to determine whether improvement has occurred in the stipulated patient outcomes, and whether the self-management and the well-being of the patient have improved.

For health and patient education this means concretely that you check to what extent the education targeted in data collection, diagnosis, and implementation of the education-targeted interventions has been successful. For example, has the patient's knowledge about issues associated with his health problem and self-management increased? Have the self-management skills of the patient increased and are these effective to perform the self-management at the desired level? Is the patient able to continue self-management independently at home? Is self-management now an integral part of the daily life of the patient and integrated into his daily activities? Have the patient's health and well-being been assessed as well? During the evaluation phase you can clarify by using open questions: "can you tell me how you took your medication yesterday? Can you tell me what you ate for breakfast and lunch yesterday ...?" Such questions give a much more concrete picture of the lifestyle and health advice carried out in whole or in part than questions such as: "do you take your medication as prescribed? Do you follow your diet?"

6.2 Nursing Diagnoses Aimed at Promoting Patients' Self-Management

Nursing diagnoses that are linked to health education and self-management, PES structure:

1. Health perception–health management pattern, pattern of health experience and-conservation
   - Altered health maintenance
   - Noncompliance
   - Altered protection, and
   - Health seeking behavior
2. Cognitive–perceptual pattern
3. Self-perception–self-concept pattern
4. Coping–stress tolerance pattern
5. Value–belief pattern

The nursing professional plays an important role in identifying behaviors of patients who have a relationship with self-management and health (Ryan 2009). The nursing diagnosis is to approach it from different angles. The conceptual angle indicates who is responsible for what, and offers a view of the responsibilities of nursing professionals. The contextual perspective describes the concept of diagnosis in a nursing context, within which the actions of the nursing professional take place: the diagnosis from the anamnesis data; do the goals distract from the diagnosis and the interventions? The structural perspective of a nursing diagnosis harks back to the PES structure (Gordon 2013; McFarland and McFarlane 1993).

Which diagnoses are related to health education and improving self-management? The PES structure is about a health problem, with the attached etiological factors. The recognition of the health problem is reflected in the signs and symptoms. In the PES structure the P indicates the patient's health problem. Health problems can be divided into a number of categories of nursing diagnoses. For example, a high risk for damage, fear, and knowledge deficits. In the PES structure, the E stands for the etiological factors, or determinants that are connected to the health problem. These related factors may have a causal link to the health problem. Etiological, related factors are internal or external factors that have an effect on the patient, his family or the community. They contribute to the creation or maintenance of a health problem. These etiological factors can be all kinds of causes of the problem. The nursing professional's intervention can be derived directly from these etiological factors. For example, if the patient's problem includes not taking his medication conventionally, and the cause of this is not understanding the medicine's instructions, then the nursing professional intervention is a different one than when the cause is that the patient is experiencing strong nausea as a side effect. In the PES structure the S stands for signs and symptoms. The sign and symptoms give both the subjective and objective characteristics of the health problem. These characteristics provide an input for the nursing diagnosis. For each nursing diagnosis, there are symptoms that together define the characteristics. Based on these characteristics, nursing professionals assess whether the patient is having certain problems. All of these characteristics determine the specific nursing diagnosis. The structural definition thus gives a view of the problem, the characteristics, and the causes.

The PES structure offers nursing professionals a way to assess whether patients have certain health problems. The PES structure fits in well with health promotion and disease prevention, because it is also based on health problems, etiological factors, and signs and symptoms are distinguished.

6.3 Health Patterns Aimed at Promoting Patients' Self-Management

There may be a format to 11 functional health patterns, according to Gordon, which collectively form the nursing domain. These health patterns make it clear what is relevant in health education and patients' self-management, and offer starting points for education-oriented diagnoses.

Which health patterns are relevant for health education and patients' self-management? This is about giving full information and the use of information, understanding the health situation, dealing with social influences, the acquisition of skills, and supporting and maintaining the behavioral change (McFarland and McFarlane 1993).

The **health perception–health management pattern** involves the perception and experience of the patient of his own health. It is down to the patient's perception and experience of his own health status, health goals, and health beliefs that make him behave in a certain way. The purpose of this pattern is to gain an insight into "health search behavior": to lifestyle and health advice, to resources that are available to stay healthy and to recommendations for medical treatments.

The **cognitive–perceptual pattern** is the patient's ability to receive information, to understand, to remember, and, on this basis, to take decisions. The goal of the cognition and observation pattern is to assess if patients are cognitively and emotionally able to handle this.

The **self-perception–self-concept pattern** is about the attitude of the patient and skills. The goal of this pattern is to assess the attitude of the patient with regard to his capabilities. Emotions and feelings for example as fear and mourning may be important.

In the **coping–stress tolerance pattern**, the attention is focused on whether or not the patient is able to perform certain skills. The goal of the coping and stress tolerance pattern, is to assess the capabilities of the patient regarding his coping skills for dealing with stress.

The **value–belief pattern**, is about factors that influence the choices of the patient, in addition to his lifestyle and (health) behavior. Attitudes (considerations and ratings of these considerations) play a role. The goal of the values pattern is to gain insight into the choices of the patient focused on his self-management and health behavior.

Other patterns that play a role for the patient and health education, and for promoting and maintaining health are: the nutritional and metabolic pattern, the elimination pattern or excretory pattern, the pattern of activity–exercise role, the role-relationship pattern or relationship pattern, and the sexuality–reproductive pattern.

Why is the health perception–health management pattern important for health education and self-management? The health pattern health perception–health management pattern makes an important subdivision in altered health maintenance, noncompliance, altered protection, and health-seeking behavior. The health pattern **altered health maintenance** is clearly related to the nursing profession. Nursing professionals are involved in supporting individuals and their social environment in achieving optimal health. The task of nursing professionals is that the patient adopts skills and such to achieve maximum independence of the patient. After determining this altered health maintenance diagnosis, the nursing professional should intervene through nursing interventions. In the phase of data collection, the perception and experience of the patient with regard to his health status is assessed. Defining features for the altered health maintenance pattern is: poor eating habits; incomplete

immunization; need for alcohol, drugs or tobacco; incomplete education; inadequate accident prevention; inability to deal with stress. The related factors to the health pattern may be: the inability to take decisions; inadequate information search behavior; the inability to carry out age-related prevention activities or poor learning skills. The related nursing diagnoses may be: "altered health maintenance related to a lack of knowledge with regard to (for example) drug use."

The health pattern **noncompliance** is about the patient making informed decisions to keep to a therapeutic recommendation, according to the North American Nursing Diagnosis Association (NANDA). The noncompliance may refer to the prescription of medication, due to a lack of knowledge and a complex medication regimen. Noncompliance can also cover a prescribed diet, related to confusion in communication about the expected results. The nursing diagnosis noncompliance should give a clear description of the current and potential health problems. A nursing professional's diagnosis could be: "the inability to adapt to the treatment regime" or "a potential deficit in the participation in the treatment and/or care process."

For the health pattern **altered protection**, the nursing diagnosis could be: "altered protection related to excessive alcohol consumption" or "altered protection related to or a decrease in the use of food nutrients".

The health pattern **health seeking behavior**, the goal is to optimize health. A person with a stable, positive state of health, is exploring ways to improve certain health behaviors. For health-seeking behavior, the goal is to further optimize the health status. A nursing diagnosis can be: "health seeking behavior related to the reduction of body fat and the risk of heart disease".

Why is the health pattern cognitive–perceptual pattern important for health education and self-management? Another health pattern is the **cognitive–perceptual pattern**. Knowledge deficit falls under this health pattern. Knowledge deficit can refer to an individual lack of education, that the patient is unable to show that he is informed or to demonstrate the required skills. A nursing diagnosis is "knowledge deficit by a lack of exposure to appropriate education sources or by fear." This diagnosis can lead to the lifting of the knowledge deficit by acquiring education, application, and troubleshooting.

Why is the health pattern self-perception–self-concept pattern important for health education and self-management? The third health pattern is the **self-perception–self-concept pattern**. This health pattern covers fear and disorders in feeling and mood. For anxiety and disorders in feeling and mood, there may be feelings of depression, emotional lability, anxiety, and attention disorders. An example of a nursing diagnosis here is "fear of uncertain operation results" or "emotional instability due to a premature child."

Why is the health pattern role–relationship pattern important for health education and self-management? The fourth health pattern is the **role–relationship pattern**, which describes existing behavior patterns that limit the functioning and the possibilities for behavior change. A nursing professional diagnosis may be "altered role performance by a lack of social support or the absence of a role model."

Why is the health pattern coping–stress tolerance pattern important for health education and self-management? The last health pattern is the **coping–stress tolerance pattern**. This health pattern describes the skills that are necessary to

perform tasks related to handling coping and stress. For example, coping with stress and learning skills to cope with stress.

- **Patients with RA and their moving behavior**. For patients with rheumatoid arthritis (RA) more movement has multiple disease-specific benefits, such as less pain and fewer restrictions. Health care providers give these patients general education to get more exercise, but feel insufficiently competent to promote the movement behavior of patients with RA (Hurkmans et al. 2011).

6.4 Nursing Interventions Aimed at Promoting Patients' Self-Management

Nursing professionals provide care to patients with all kinds of health problems. Nursing interventions supporting patients in dealing with their health problem promote self-management and this can have a positive effect on the outcomes of the nursing care. The nursing intervention is chosen depending on the diagnoses made by the nursing professional. The choice of a nursing intervention is determined by the nursing diagnosis, but the nursing intervention is also tailored to the needs, preferences, and characteristics of the patient.

According to Bulechek et al. (2013), a nursing professional intervention should be performed under the direct care of nursing professionals in the interest of a patient or client. The intervention comes from a nursing diagnosis and the specific nursing diagnosis determines the specific nursing intervention. Nursing interventions may target the individual patient, and if so desired by the patient, also involves relationships that give social support and the specific life, living, and work situations. For education, different groups of nursing interventions can be distinguished. Nursing interventions can be related to health information, learning to be healthy and staying healthy, changing lifestyle and (self-management or health) behavior, and promoting and expanding health.

Bulechek et al. (2013) differentiated groups of nursing interventions that have (indirectly) a link to patient and health education. In the Nursing Interventions Classification (NIC), nursing interventions are described aimed at the **domain behavior**. The domain behavior is "aimed at supporting psychosocial functioning and of changes in lifestyle." For interventions that focus on the strengthening and promotion of desirable behavior, or on changing unfavorable behavior, the focus is on promoting one's own responsibility and promoting behavioral change. For interventions that are aimed at supporting expressing and receiving verbal and nonverbal messages, the focus is on active listening. For interventions that are aimed at patient education and to support understanding and learning, the focus is on the improvement of health skills and education. For interventions that are aimed at the society and the support of the health of the society, the focus is on interventions that promote the health of the whole community, such as health education, protection against risk factors, population research, and risk assessment.

Nursing interventions may be aimed at changing an **etiological factor**. An etiological, causal factor is identified by the nursing professional in the phase of data collection and included in the nursing diagnosis. The nursing intervention focuses on this etiological factor to eliminate or minimize its impact.

A nursing professional intervention can also aim to identify and treat **symptoms**. This allows patient to learn using patient and health education, to respond to early symptoms or to perform the desired self-management behavior. For example, a patient after an operation will, if he has learned what early symptoms indicate inflammation of the surgical wound, is able to react adequately to the inflammation. Or, a patient with depressive restrictions, if he has learned what signals indicate an incorrect response to an antidepressant, is able to react adequately to this. The treatment of symptoms also end sooner, if the patient is not only informed, but also knows how to perform the desired self-management and self-care accordingly. For example, a patient after operation, if he has learned to, will be able to handle his wound regularly and use aseptic care in the home situation.

A third group of nursing interventions is aimed at dealing with **potential problems** of patients. The nursing professional signals known risk factors, predictive for the development of a particular health problem. The nursing professional seeks to change or eliminate the risk factors. For example, in children with COPD, a risk factor is having parents who smoke, or, in patients with high blood pressure, a risk factor is high salt consumption. A potential health problem could also be that the patient runs a higher risk of getting the health problem. For example, there is a greater risk of accidents in the private atmosphere for children in large families, or a greater likelihood of educational problems and lack of social support in families with a low socio-economic status.

Nursing interventions that have a relationship with patient and health education are those aimed at promoting a healthier lifestyle for people without specific health problems. These are the **wellness-related interventions**. For example, a healthy diet for teenagers aged 12–19 years, or stress management for young mothers, or exercise for women after the transition to the menopause, or sleep for older people. In these interventions, a nursing professional's diagnosis is not necessary.

> ▶ Nursing interventions for patients with diabetes should be linked to improving the knowledge of patient, to the self-management-behavior of the patient, and to psychological outcomes such as quality of life, and physiological outcomes (Hunt 2013).

6.5 Nursing Classification Systems, and Health and Patient Education

A number of classification systems of nursing interventions make a connection with patient education and health education. The **NIC** taxonomy (Nursing Intervention Classification; Grobe and Hughes 1993; Bulechek et al. 2013), differentiates many nursing interventions that have an interface with education. The NIC taxonomy

specifically mentions patient education and behavior therapy as a nursing intervention. For patient education, the nursing interventions focus to enable the patient to learn. Also, patient education and behavior therapy involves the acquisition of new knowledge related to health and illness, and the learning of skills for behavior change and self-management behavior. Behavior therapy is about nursing interventions that aim to promote desired behavior or to emphasize the desired behavior of the patient.

SABA is a classification system for nursing interventions for home health care nursing (Saba et al. 1991). This classification system comprises the whole nursing process, and deals with both nursing diagnoses and nursing interventions. SABA describes nursing diagnoses that have a relationship with health behavior and interventions, that is, learning. It concerns a group of nursing interventions that are focused on enabling the patient to learn. Here, too, the broad spectrum of education is included, from providing information to the optimal self-management behavior of the patient.

6.6 Nursing Interventions Aimed at Promoting Patients' Self-Management, Using Intervention Mapping

Nursing interventions should be developed systematically based on the protocol of intervention mapping (Bartholomew et al. 2016). By the application of the protocol of intervention mapping, important insights into the health problem are described. You know the causes of the health problem, but also the specific risk groups and know especially which risky behaviors are important. You know the performance and change objectives and know what changes are necessary to achieve goals. A good intervention is built on evidence-based methods for behavioral change, promotes the desired self-management behavior, and tests the intervention. In the adoption and implementation plan, the roles, functions and tasks, and the different health care providers needed to carry out the intervention are described. Often, the evidence for the intervention is described and you know what effects to expect if the intervention is carried out according to plan. Intervention mapping has proved to be an effective protocol for developing health interventions (Bartholomew et al. 2011; Sassen 2012; Van Kesteren et al. 2006; Alewijnse et al. 2002; Heinen et al. 2006; Wolfers et al. 2007). When running health- or self-management interventions, the nursing professionals should make an effort to change people's lifestyle or patients' self-management behavior. The nursing professional should make an effort to change the health- or self-management behavior of the patient by means of motivating him to implement different, healthier behavior. These targeted changes in knowledge, attitudes, skills, and behavior can improve the patient's health situation, improve the patient's self-management, and improve the patient's quality of life and well-being.

Nursing interventions that have been developed by means of intervention mapping have the needs of the patient group as a starting point. By making patients participate in the development of health-based intervention, a good connection to the wishes and needs of the patient (group) can be made. The intervention is

developed together with the members of the target group, because the target group knows what would be applicable to them.

Rarely will a patient merely need some information, a bit of reassurance or some time to discuss his feelings. If you as a nursing professional start implementing the health intervention or the self-management intervention, it is important to know the precise needs of the patient in front of you, and to make these explicit. It is important that nursing professionals' response to "their" patients' care needs, to their specific need for information, (patient) education, and self-management support.

When a relative small group of nursing professionals is responsible for the same group of patients every day, then the chance of a succesfull nursing intervention increases. If there is a restricted group that is responsible for the implementation of the nursing intervention, transferring the education-targeted interventions is more effective if the patient passes to a different setting. Nursing professionals are then also better able, at the end of the nursing process, to indicate the effectiveness of the implemented nursing interventions. In our current healthcare system, patients typically do not stay long in a specific setting. The coordination and continuity of nursing education-targeted interventions with this goal in mind call for specific attention. Nursing interventions reach out further than the doors of the current setting in which you work as a nursing professional. Especially if patients only stay for a short time in a particular setting and the desired (self-management) behavior of the patient is more complex or if chronic health problems play a role, it appears to nursing professionals that it is not possible to complete the entire education intervention. The provision of medical or self-management intervention is then continued elsewhere in a different setting. Increasingly, self-management interventions are started before hospitalization, and continued when the patient is at home again.

6.7 Implementing Nursing Interventions Aimed at Promoting Patients' Self-Management

Nursing professionals are the link in promoting the patient's self-management. The patient is expected to develop a collaborative relationship with you as a nursing professional and to play an active, participatory role in the process of lifestyle and behavioral change. We suppose that the effectiveness of education depends strongly on the role the patient is willing to play in this communication and education process. Of course, the role of the patient is extremely important. Without his participatory role, patients' self-management will be insufficiently tailored to the needs and expectations of the patient, the patient will be not able to take decisions related to care and treatment, and patients' ultimate self-management will be less effective.

What role does the nursing professional have in promoting patients' self-management? How well do nursing professionals support self-management? Is the

effectiveness of patients' self-management dependent on how well the nursing professional is able to promote self-management? The nursing professional has an important role to play, your competencies, your knowledge, and your skills determine to a large extent the effectiveness of your health-intervention or self-management intervention, and the ultimate effectiveness of patients' self-management. Thus, although we tend to measure the effectiveness of a health- or self-management intervention on the side of the patient, it certainly makes sense to look at nursing professionals and how motivated they are to motivate a patient to change his behavior or improve his self-management as well.

What is good about a health- or self-management intervention being run by nursing professionals? When running an education-based intervention, it should be performed as described in the implementation plan of intervention mapping, and this often means that nursing professionals are trained to implement a particular intervention. In the professional practice of nursing professionals when implementing the intervention, they often skip parts of the intervention or make changes to the intervention. For example, the patient with diabetes is asked if he succeeds in using the insulin pump, but the skills are not under the supervision of feedback.

6.7.1 Nursing Professional as a Health Coach: Introduction

Promoting patients' self-management requires specific communication skills of you as a nursing professional. How motivated are you to improve the self-management of your patients? Is motivating patients difficult? Are some patients hard to motivate or even not prepared to get started with self-management at all? Does it take up a lot of time? Nursing professionals make an assessment of the patient's chances of success. Nursing professionals try to make a forecast of the patients that will carry out the desired self-management behavior. What do you do as a nursing professional, do you inform and motivate every patient, equally as intensively? Are you equally involved in each specific patient?

The descriptions below are based on the training health coaching at the end of this chapter (Sect. 6.8).

- Training 1a: health coach—introduction: are you a health coach?
- How motivated are you to improve the self-management of your patients?
- Improving patient self-management, and providing evidence-based health promotion and patient education; it seems like an open door within the nursing profession. But what is the importance of this issue for you personally? For me it is important that: …
- Is there a link between a "cooperative patient" and your professionalism as a health coach? … Argue. Why? …

6.7.2 Nursing Professional as a Health Coach: Risk Perception with Regard to Patients' Self-Management

What is your perception of your own motivational behavior as a nursing professional? Just as we have seen in the risk perception of the patient and his assessment of its risk of (worsening of the) health problem, you may underestimate the possible "risk." You may think as a nursing professional that you are always forceful about getting started with the promotion of patients' self-management, and that others, other health care providers, do not or do less well. In general, you underestimated your own, individual risk and you think that others run the risk of not starting the motivation process with the patient. As a rule, knowledge never leads to behavioral change. Knowledge is, just as we have seen for the patient, rarely the problem. Nursing professionals know a lot about promoting healthy behavior and the promotion of patient self-management, but knowing is just the starting point.

- Training 1b: health coach—risk perception with regard to patients' self-management
- If you critically look at what you are doing when you give health education to the patient and improve patients' self-management, what do you do exactly? …
- For what factors are doing well, and for which factors are you doing less well? …

6.7.3 Nursing Professional as a Health Coach: Changing Attitudes with Regard to Patients' Self-Management

Are there benefits associated with motivating patients, or are disadvantages especially important?

What are the benefits to motivating a patient to get started with his self-management? What is in that for you as a nursing professional? For example, the patient then has a better understanding of the goal of self-management, or, the patient follows the self-management appointments better, which may reduce his blood pressure.

What are the disadvantages to motivating a patient to get started with his self-management? What investments does this take for you as a nursing professional? For example, you may also have difficult discussions with the patient. This may take up (a lot of) extra time. Often the disadvantages are incorrect assumptions, usually incorrect intuitive assumptions. The assumption that motivating patients to improve their self-management takes a lot of extra time for you as a nursing professional is incorrect. Spending time and giving attention to the patient, inviting the patient to participate and collaborate on self-management, saves time because this streamlines the communication and motivation process. The advantages and disadvantages

related to motivating patients play a role in the long and the short term. To format the balance sheet if you support a patient in its self-management, you need to look at the pros and cons in both the short and long term.

- Training 2: health coach—attitudinal change with regard to patients' self-management
- Motivating a patient to other, healthier behavior has its advantages and disadvantages. What are the benefits for you personally to motivate a patient? What are the disadvantages for you personally to motivate a patient? Specify in the short and long term your pros and cons.
- Can you assess for yourself the advantages and disadvantages? What weighs heavily? What does this balance tell you, if you look at your current motivational behavior as a nursing professional?
- Use the motivation scale, with a score of 0 to 10, how much do you want to become a better health coach. Justify the rating that you give yourself with arguments.
- Use the matrix for advantages and disadvantages and the motivation-scale (see Sect. 6.9)

6.7.4 Nursing Professional as a Health Coach: Resisting Social Pressure and Seeking Support with Regard to Patient Self-Management

What do other nursing professionals do, do they also motivate patients? Colleague-related social support is important in motivating patients. It helps if you know others who also motivate patients and support them in their self-management.

Which (colleagues) can help you? If people are uncertain about their own views, they tend to compare them with the views of people with whom they can identify. On the other hand, people in our environment (team, organization), can also work against us in the motivation process. Who (colleagues) asks of you as a nursing professional response, so that they do not obstruct you in the motivation process that you have with the patient? In learning to cope with the social environment, the aim is to learn to look for support and to be resilient against social pressure.

- Training 3: Health coach—resisting social pressure and seeking support with regard to patients' self-management
- Motivating patients to other, healthier behavior is not easy. A little support from colleagues can help; social pressure is usually of no use to you. Which colleagues offer support and how? Which colleagues apply social pressure and what is that social pressure like? Fill in the schedule with key words.
- Use the matrix for social influence (see Sect. 6.9)

6.7.5 Nursing Professional as a Health Coach: Perceived Behavior Control and Self-Efficacy in Regard Patient Self-Management

In the assessment of self-efficacy, you take stock of your capabilities to handle patients' motivation process.

Do you think you can improve patients' self-management? This self-efficacy is necessary to handle the motivation process with the patient. Skills to handle patients' self-management are psychosocial, communication, and education skills. You have to become accomplished yourself, step-by-step, in the skills needed to handle the process to improve the patient's lifestyle behavior or the self-management. Practice makes perfect, and the observation of others can be helpful. What matters is that you feel that you can manage to motivate a patient, increasing confidence in your own skills.

- Training 4: health coach—perceived behavior control and self-efficacy with regard to patients' self-management
- Motivating a patient to implement other, healthier behavior requires certain practical skills of you as a professional. How well are you able to handle this? How well did you have this in the fingers? List for yourself at least four skills that you need to improve the self-management or health behavior of the patient, possibly with sub-goals according to your own opinion. For example, inviting the patient to participate; asking open questions; giving no information or advice; giving patients the lead in communication; paying attention to the nonverbal communication, etc.
- Use the matrix for self-efficacy with regard to patients' self-management (see Sect. 6.9)

6.7.6 Nursing Professional as a Health Coach: Planning Behavior Change with Regard to Patients' Self-Management Using Action Planning

Changing intention involves the formulation of goals indicating planning the behavior change and stating a plan to improve patients' self-management. The action plan describes your goals about improving the self-management behavior of your patients.

What goals are you working on, when it comes to promoting the patient's self-management? What are you going to do (better, differently), when, and how often? This also involves you being prepared to carry out your goal(s). If you are preparing for the implementation of your goals, this makes it more likely that you will succeed in your goal.

- Training 5: health coach—planning behavior change with regard to patients' self-management

- Stating an action plan to motivate every patient is an important step on the road to professional routine. Research shows that it helps if you formulate your goals in the form of what exactly you are going to do (for example, motivating each patient); when you are going to do this (for example, after introduction, after measuring blood pressure, or after you have looked back at the past period); and, how often you are going to do this (for example, in any consultation); what preparation (for example: see details of the patient). Write down you personal goal.
- Use the action plan—goals—What, when, ow often and prepare with regard to patients' self-management (see Sect. 6.9)

6.7.7 Nursing Professional as a Health Coach: Changing Behavior with Regard to Patients' Self-Management Using Coping Planning

The plan to convert the motivation of patients into your nursing professional practice can be blocked by barriers. Barriers are all kinds of unforeseen circumstances that obstruct, even though your intention is to motivate your patients, you from working according to your action plan.

How do you promote the self-management of your patients? You should detect and clean up barriers, we call this "diminishing barriers." Providing targeted feedback can promote behavioral change, the same as we saw when providing feedback to a patient. The same applies to breaking the routine. Breaking old routines is tricky, but it helps if you have a limited number of goals. Feedback on own goals is easier if you have formulated sub-goals.

- Training 6: health coach—changing behavior and coping planning with regard to patients' self-management
- Now you are planning to motivate your patients to improve their self-management, it will seem in practice to be tricky to always do this well, getting it done in the way you intended. You come up against barriers that prevent you from (completely, enthusiastically enough, etc.) motivating a patient, despite planning. Write down important barriers, and think of ways to get around them.
- Use the coping plan—barriers and how to handle barriers with regard to improving patients' self-management (see Sect. 6.9)

6.7.8 Nursing Professional as a Health Coach: Sustaining Behavior Change with Regard to Improving Patients' Self-Management

Sustaining behavior change includes continually insisting on the "new" behavior, i.e., in any consultation motivating the patient to implement different, healthier behavior, and to support self-management.

How do you continue to promote patients' self-management? Prepare yourself to fall back into your old routines. Relapse happens to everyone. Look for ways to decline relapse. For example, start again at the next (new) patient and keep working toward your goals. The patient rarely gains control over his self-management in a short time. It requires a long period to incorporate the motivation of each patient into a routine, and build it into your professional activities.

- Training 7: health coach—sustaining behavior change with regard to improving patients' self-management
- You will become a health coach, especially by building up experience with motivating patients to improve their self-management behavior or change their lifestyle. One patient is easier to motivate to other, healthier behavior than another patient. If you really want to profit from your work as a health coach, then it is important that you continue to motivate each patient. Often, you will fall back into your old routine as a professional and you notice that you have done less health coaching and motivating. Specify on the got-used-to scale how strong motivating patients for you has become a usual part of caregiving. Write down what high-risk situations are for you as a nursing professional, a situation that obstructs you from motivating patients. Next to these decline times and what the solution is to handling these high-risk situations. Also, describe what has become routine and how to hold on to this.
- Use the matrix for high-risk situations and how to handle high-risk situations with regard to improving patients' self-management and the got-used-to scale with regard to improving patients' self-management (see Sect. 6.9)

6.8 Nursing Outcomes for Patient Self-Management

The results of the nursing care, the outcomes of the nursing care, are established in accordance with the Nursing Outcomes Classification, the NOC. The nursing care results of the nursing intervention have led to results in the patient. High-quality patient care can be measured using care results (Johnson et al. 2003). Measuring the quality of care is related to the health of the patient, patient satisfaction with the quality of care, and patients' assessment of his quality of life. Insight into care results shows how patient care is experienced and this allows you to identify gaps in the nursing care process and customize it. The need to understand impressionable nursing care results has increased and will increase further. This insight is needed to monitor the effectiveness of nursing care, and to further optimize quality of care. Above all, care results give you as nursing professionals a particularly personal insight into the quality of care and patient satisfaction with your nursing care.

Which care results can be influenced by nursing care and are linked to health education, patient education, and supporting patients' self-management? In the domain psychosocial health, care results describe the psychological and social

functioning of the patient, for example, care results that describe the patients adapting to changes in his health or living conditions. In the domain health knowledge and health behavior, care results describe a person's attitude, understanding, and actions related to health and disease, which includes health behavior. The care results also describe what patients are doing for their health. This domain is about improving health, maintaining health, or restoring health.

The domain health knowledge and health behavior provides initiatives for health optimization, self-management, and adherence, but also health-promoting behavior, or health-seeking behavior. Health knowledge and health behavior in the domain are health attitudes and the ability of someone to perform the healthy behavior, its impact on healthy behavior, the resources available for healthy behavior, and health consciousness. Health knowledge and health behavior in the domain is about risk management and safety.

When it comes to health opinions, care results describe ideas and experience that affect patients' health behavior. The care results related to health knowledge describe to what extent someone understands the education with which he can promote his health, maintain his health, or restore his health. Finally, care results describe the health results related to risk management and security and safety, and what someone does to handle identifiable threats to his health, and to avoid, reduce or control these.

6.9 Training Nursing Professional as a Health Coach: with Regard to Improving Patients' Self-Management

Introduction

What role does the nursing professional play in promoting the patient's self-management? How good are nursing professionals at supporting the patient's self-management? Is the effectiveness of the patient's self-management dependent on how well the nursing professional is able to promote self-management?

Below a training method is described to improve your supporting behavior with regard to patient self-management. When using the training method, the nursing professional as a health coach will become a better health coach, better able to change the patient's self-management or lifestyle behavior. In seven successive steps, starting with risk perception, you look at your attitude with regard to patient self-management, you handle social influences on your motivating behavior as a nursing professional, and you increase your own self-efficacy skills with regard to patient self-management; this can lead to a change and improvement in your health coaching when you make use of coping planning followed by action planning. The method is relatively easy to use.

What will be learned? You learn to take a closer look at the importance of health coaching for yourself as a nursing professional, but also at difficulties; learn to explore and implement from your own experiences every step in the training method the nursing professional as a health coach; learn what your personal benefits and disadvantages to motivate a patient are; learn how to perceive and handle

colleague-related social support; learn the skills needed to handle the process to motivate the patient; learn to make an action plan with regard to improving patient self-management; learn to make a coping plan with regard to improving patient self-management; learn to see important difficulties in each step and learn how to handle them; you may notice that your not always making progress, but that you may have to go back to a previous step.

How many sessions are needed? Depending on your experience working with patients, it will take one session to do training 1, 2 and 3, one session to do training 4 and 5, one session to do training 6, and one session doing training 7. Each session will take about 1 h; when the training is in subgroups of three or four people, each session will take 1.5 h, and it is important that every person writes his own specific action and coping plan.

6.9.1 Training 1a: Health Coach—Introduction—Are You a Health Coach?

▶ How motivated are you as a nursing professional to improve your patient's self-management?

Introduction

Promoting patients' self-management asks for specific communication skills of you as a nursing professional. How motivated are you to improve the self-management of your patients? Is motivating patients difficult? Are some patients hard to motivate or even not at all prepared to attempt self-management? Does it take up a lot of time? Nursing professionals make an assessment of the patients' chances of success. Nursing professionals try to create a prediction for the patient that will go to the desired self-management-behavior. What do you do as a nursing professional, to inform and motivate every patient? Are you equally involved in each specific patient?

Training 1a: health coach—introduction: are you a health coach?
How motivated are you to improve the self-management of your patients?
Improving patient self-management, and providing evidence-based health promotion and patient education; it seems an open door within the nursing profession. But what is the importance of this issue for you personally? For me it is important that: …
Is there a link between a "cooperative patient" and your professionalism as a health coach? … Argue. Why? …

6.9.2 Training 1b: Health Coach—Risk Perception with Regard to Patient Self-Management

▶ If you look critically at what you are doing when you give education to the patient and when you promotes patient self-management, what do you do exactly?

Introduction

What is your perception of your own motivational behavior as a nursing professional? Just as we have seen in the risk perception of the patient and his assessment of its risk of (worsening of the) health problem, you may underestimate the possible "risk." You may think as a nursing professional that you are always ready to get started with the promotion of patient self-management, and that other health care providers, do not or do so less well. In general, you underestimate your own, individual risk, and you think that others run the risk of not starting the motivation process with the patient. As a rule, knowledge never leads to behavioral change. Knowledge is, just as we have seen for the patient, rarely the problem. Nursing professionals know a lot about promoting healthy behavior and the promotion of self-management to the patient, but knowing is just the starting point.

Training 1b: health coach—risk perception with regard to patients' self-management

If you critically look at what you are doing when you give the health education to the patient and improve patients' self-management, what do you do exactly? …

For which factors you are doing well, which factors less well? …

6.9.3 Training 2: Health Coach—Attitudinal Change with Regard to Patients' Self-Management

▶ Are there advantages in motivating patients to improve their self-management? And in particular, are there disadvantages in motivating patients to improve their self-management?

Introduction

In addition to the perception of your motivational behavior, the pros and cons of this behavior for you as a nursing professional play a role. Nursing professionals would have to have a realistic picture of the advantages and the disadvantages, in both the short and the long run of their own motivational behavior. What are the benefits of having a patient motivated to get started with his self-management? What are the disadvantages of motivating a patient to get started with his self-management? The advantages and disadvantages related to motivating patients play a role in the long and the short term. To format the balance sheet of what this yields for the patient in supporting his self-management. What are the important advantages and disadvantages in both the short and the long term.

Training 2: health coach—attitudinal change with regard to patients' self-management

Motivating a patient to different, healthier behavior has its advantages and disadvantages. What are the benefits for you personally in motivating a patient? What are the disadvantages for you personally in motivating a patient? Specify in the short and the long term your pros and cons. Use the matrix for advantages and disadvantages.

	Short term		Long term	
Advantages	1		1	
	2		2	
	3		3	
	4		4	
Disadvantages	1		1	
	2		2	
	3		3	
	4		4	

Fig. 6.1 (**a**) Motivation scale. (**b**) Matrix for advantages and disadvantages

Can you assess for yourself the advantages and disadvantages? What weighs heavily? What does this balance tell you, if you look at your current motivational behavior as a nursing professional?

On the motivation scale with a score of 0 to 10, how much do you want to be a better health coach. Please justify the rating that you give yourself with arguments: …… (Fig. 6.1)

6.9.4 Training 3: Health Coach—Resisting Social Pressure and Seeking Support with Regard to Patients' Self-Management

▶ Do other nursing professionals also motivate patients?

Introduction

Colleague-related social support is important in motivating patients. It helps if you know others also motivate patients and support patients in their self-management important.

Which (colleagues) can offer you a helping hand? If people are uncertain about their own views, they tend to compare themselves with the views of people with whom they can identify. On the other hand, people in our environment (team, organization), can also work against us in the motivation process. Who (colleagues) asks of you as a nursing professional response so that they do not obstruct you in the motivation process that you are undergoing with the patient? When learning to cope with the social environment, the aim is to learn to look for support and to be resilient against social pressure.

		When and how
Positive social influence/ social support	1	
	2	
	3	
	4	
Negative social influence/ social pressure	1	
	2	
	3	
	4	

Fig. 6.2 Matrix for social influence

Training 3: health coach—resisting social pressure and seeking support with regard to patients' self-management

Motivating patients to implement different healthier behavior is not easy. A little support from colleagues can help, social pressure is usually of no use for you. Which colleagues offer support and how? Which colleagues give social pressure and what does that social pressure look like? Fill in the schedule with key words (Fig. 6.2).

6.9.5 Training 4: Health Coach—Perceived Behavior Control and Self-Efficacy with Regard to Patients' Self-Management

▶ Do you think you can promote patient self-management?

Introduction

In the assessment of self-efficacy, you assess your capabilities in handling patients' motivation process.

Do you think you can handle the improvement of patients' self-management? This self-efficacy is necessary to handle the motivation process with the patient. The skills required to handle patients' self-management are psychosocial, communication, and

education skills. You have to learn, step-by-step, the skills needed to handle the process of motivating the patient. Practice makes perfect, and observation by others can be helpful. What matters is that you feel that you manage to motivate a patient, increasing confidence in your skills.

Training 4: health coach—perceived behavior control and self-efficacy with regard to patients' self-management

Motivating a patient to implement healthier behavior, requires certain practical skills of you as a professional. How well are you able to increase the effectiveness of your coaching behavior? Appoint for yourself at least four skills that you need to work on, possibly with sub-goals according to yourself? For example, asking open questions; giving no advice, giving patients the lead in communication; paying attention to the nonverbal communication, and so on. To do this, use the table (Fig. 6.3).

	Skills needed, sub-steps	
Skill 1	1	
	2	
	3	
	4	
Skill 2	1	
	2	
	3	
	4	
Skill 3	1	
	2	
	3	
	4	
Skill 4	1	
	2	
	3	
	4	

Fig. 6.3 Matrix for self-efficacy with regard to patients' self-management

6.9.6 Training 5: Health Coach—Planning Behavior Change with Regard to Patients' Self-Management, Using Action Planning

▶ What goals work when it comes to promoting the patient's self-management?

Introduction

Changing intention involves the formulation of goals indicating planning the behavior change and stating a plan to improve patients' self-management. The action plan describes your goals around improving the self-management behavior of your patients.

What goals are you working on when it comes to promoting the patient's self-management? What are you going to do (better, differently), when, and how often? This also involves you preparing yourself to carry out your goal(s). If you're preparing for the implementation of your goals, this makes it more likely that you will succeed in your goal.

Training 5: health coach—planning behavior change with regard to patients' self-management

Stating an action plan to motivate every patient is an important step on the road to professional routine. Research shows that it helps if you formulate your goals in the form of what exactly you're going to do (for example, motivate … each patient; when you are going to do this (for example, after introduction, after measuring blood pressure, or after you have looked back at the past period); and, how often you are going to do this (for example, at any consultation); what preparation (for example: see details of the patient). Write down your personal goals (at least four) in the table (Fig. 6.4).

6.9.7 Training 6: Health Coach—Changing Behavior with Regard to Patients' Self-Management, Using Coping Planning

▶ How do you promote the patient's self-management?

Introduction

The plan to incorporate motivating patients into your nursing professional practice, can be stopped by barriers. Barriers are all kinds of unforeseen circumstances that mean that although your intention is to motivate your patients, you do not work according to your action plan.

How do you promote your patients' self-management? You should detect and get rid of barriers; we call this, diminishing barriers. Targeted feedback (provision of

Action planning

Goal 1

What is the goal?	
What are you going to do?	
When?	
How often?	
Is preparation needed?	

Goal 2

What is the goal?	
What are you going to do?	
When?	
How often?	
Is preparation needed?	

Goal 3

What is the goal?	
What are you going to do?	
When?	
How often?	
Is preparation needed?	

Goal 4

What is the goal?	
What are you going to do?	
When?	
How often?	
Is preparation needed?	

Fig. 6.4 Action plan—goals—what, when, how often to prepare with regard to patients' self-management

Coping plan, handling barriers

	Barrieres	How to handle barriers?
1		
2		
3		
4		

Fig. 6.5 Coping plan—barriers and how to handle them with regard to improving patients' self-management

feedback) can promote behavioral change, just as we saw when providing feedback to a patient. The same applies to breaking the routine. Breaking old routines is tricky, but it helps if you restrict the number of goals. Feedback on one's own goals is easier if you have formulated sub-goals.

Training 6: health coach—changing behavior and coping planning with regard to patients' self-management

Now you are planning to motivate your patients to improve their self-management, it will in practice seem tricky to do this well, doing it as you had intended to . You come up against barriers that make it seem that, even though you are planning, you are not (completely, enthusiastically enough, etc.) motivating a patient. Write down important barriers in the table, and think of ways to get around these barriers (Fig. 6.5).

6.9.8 Training 7: Health Coach—Sustaining Behavior Change with Regard to Improving Patients' Self-Management

▶ How do you continue to promote the patient's self-management?

Introduction

Sustaining behavior change includes the continuous insistence on the "new" behavior, which is to say: to motivate the patient at any consultation to implement different, healthier behavior and support self-management.

How do you continue to support the patient's self-management? Prepare yourself to fall back into the old routines. Relapse happens to everyone. Look for ways to decline relapse. For example, start again at the next (new) patient and keep working toward your goals. The patient rarely gains control over this self-management in a short time. It requires a lot of time to incorporate motivating each patient into a routine, building it into your professional activities.

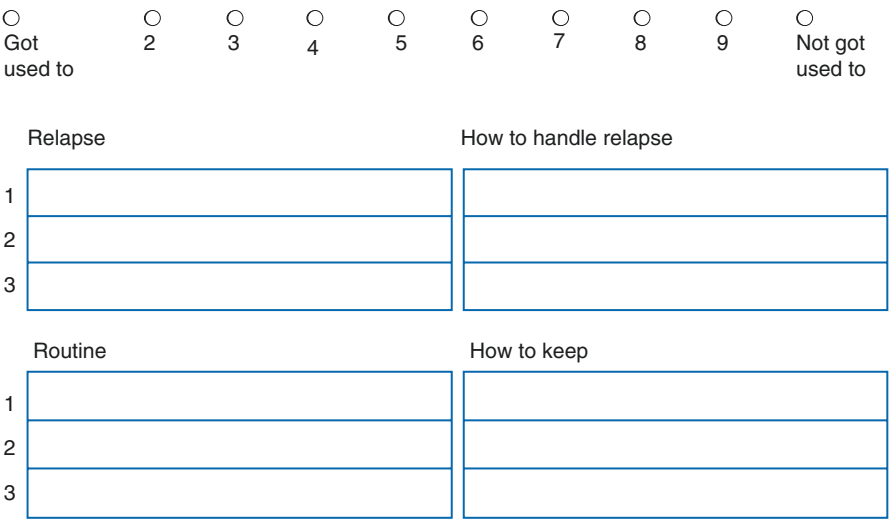

Fig. 6.6 High-risk situations and how to handle them and the got-used-to scale with regard to improving patients' self-management

Training 7: health coach—sustaining behavior change with regard to improving patients' self-management

You will become a health coach, especially by building up experience in motivating patients. One patient may be easier to motivate than another patient. If you really want to profit from your work as a health coach, then it is important that you keep continually motivating each patient. Often you will fall back into your old routine as a professional and you notice that you have done less health coaching and motivating. Specify on the got-used-to scale how much motivating patients has become a normal part of care-giving for you. Write in the figure what high-risk situations are for you as a nursing professional, describing a situation that prevented you from motivating patients. In addition to these high-risk situations and what the solution is in handling these high-risk situations, also describe what has become part of the routine and how to hold on to that (Fig. 6.6).

References

Alewijnse D, Mesters IE, Metsemakers JF, van den Borne BH. Program development for promoting adherence during and after exercise therapy for urinary incontinence. Patient Educ Couns. 2002;48(2):147–60.

Bartholomew LK, Parcel GS, Kok G, Gottlieb NH, Fernández ME. Planning health promotion programs: an intervention mapping approach. San Francisco, CA: Jossey; 2011.

Bartholomew EIK, Markham CM, Ruiter RAC, Fernandez ME, Kok G, Parcel GS. Planning health promotion programs, an intervention mapping approach. Hoboken NJ: Wiley; 2016.

Bulechek GM, Butcher HK, McCloskey Dochterman J. Verpleegkundige interventies. Amsterdam: Reed Business; 2013.

Coster S, Norman I. Cochrane reviews of educational and self-management interventions to guide nursing practice: a review. Int J Nurs Stud. 2009;46:508–28.

Gordon M. Handleiding verpleegkundige diagnostiek. Amsterdam: Reed Business; 2013.

Grobe J, Hughes LC. The conceptual validity of a taxonomy of nursing interventions. J Adv Nurs. 1993;18:1942–61.

Heinen MM, Bartholomew LK, van de Wensing M, Kerkhof P, van Achterberg T. Supporting adherence and healthy lifestyles in leg ulcer patients: systematic development of the Lively Legs program for dermatology outpatient clinics. Patient Educ Couns. 2006;61(2):279–91.

Hunt CW. Self-care management strategies among individuals living with type 2 diabetes mellitus: nursing interventions. Nurs Res Rev. 2013;3:99–105.

Hurkmans EJ, de Gucht V, Maes S, Peeters AJ, Ronday HK, Vliet Vlietland TP. Promoting physical activity in patients with rheumatic arthritis. Clin Rheumatol. 2011;30(12):1603–9.

Johnson M, Moorhead S, Maas M, Reed D. Evaluation of the sensivity and use of the nursing outcomes classification. J Nurs Meas. 2003 Fall;11(2):119–34.

Kesteren NM, Kok G, Hospers HJ, Schippers J, De Wildt W. Systematic development of a self-help and motivational enhancement intervention to promote sexual health in HIV-positive men who have sex with men. AIDS Patient Care STDS. 2006;20(12):858–75.

McFarland GK, McFarlane EA. Nursing diagnosis & intervention. Planning for patient care. Baltimore, MD: Mosby; 1993.

Ryan PR. Integrated theory of health behavior change: background and intervention development. Clin Nurse Specialist. 2009;23(3):161–72.

Saba VK, O'Hara PA, Zuckerman AE, Boondas J, Levine E, Oatway DM. A nursing intervention taxonomy for home health care. Nurs Health Care. 1991;12:296–9.

Sassen B, Kok G, Verhees L. Predictors of healthcare professionals' intention and behaviour to encourage physical activity in patients with cardiovascular risk factors. BMC Public Health. 2011;19(11):246.

Wolfers ME, van den Hoek C, Brug J, de Zwart O. Using Intervention Mapping to develop a programme to prevent sexually transmittable infections, including HIV, among heterosexual migrant men. BMC Public Health. 2007;7:141.