1 Health Behaviour and Health Status – What do We Bring to the 3rd Millennium?

Sciences concerned with human health, from medicine to social sciences and the humanities, pay a great deal of attention to human behaviour, treating it as a determinant of health, both in populations and in individuals (Lalonde, 1974; OECD, 2012). At the same time, behaviour is considered to be the most significant factor, which determines health. The intensity of this concern is related to the development of a widely defined concept of health.

To put it simply, the evolution of thought relating to understanding of health has become circular and today we have returned to the roots in a way. In the ancient times body and mind were considered a whole. During illness, natural ways were sought to restore balance between many factors determining health (e.g. Hippocrates' humours) or supernatural powers were invoked (spirits, demons). Similarly, health was treated as a psycho-physical unity (a union of body and mind) in the works of Aristotle and Plato. Often the important role of environmental factors or those related to people's lifestyles was indicated as a condition of good health or recovering health (e.g. Hippocrates emphasised the role of fresh air, exercise, baths, massage and appropriate nutrition). Entirely independent from health concepts of European cultures, around the same time, a naturalist concept of health originated in China. Here too the key to maintain health was the balance between opposite forces determining it, related to human behaviour, emotions and environment. In other words, health was presented as a complex phenomenon, with more or less precisely specified components.

This was followed by a period of dominance of a simple model, reducing health to physiological functions of the body. Its paradigmatic foundation was the Cartesian-Newtonian vision of the world, expressed in duality of soul and matter, body and psyche. This analytical-mechanistic approach introduced many benefits, led to significant progress in medicine and a reduction in numerous health threats (many infectious diseases were contained, death rates in Europe and the United States decreased). This approach had its price, however. Health was perceived from the notion of lack of illness, on which all interest was focused, and basic questions related to causes of illnesses (pathologies, deviations etc.). An illness is mainly limited to its biological dimension and a body is analysed as a machine of its own kind, according to the principles of mechanics. Prevention is addressed mainly to people who are at risk of contracting diseases (e.g. exposed to pathology) and preventative measures concentrate usually on a selected factor. Psychological and social factors are not considered in this approach to health and illness.

Despite everything, changes in the health of populations within developed countries which took place in the last two decades of the 19th century and the first half of the 20th century are called the first health revolution (Healthy People, 1979, p. vii). The main sources of this revolution were: a radical improvement in nutrition,

improvement of living conditions, limiting sources of infections by providing clean water and sewage removal, and vaccinations. Evidently this health initiative was effective due to the implementation of widely defined preventative measures, mainly non-medical. People were essentially passive receivers of processes implemented to protect their health.

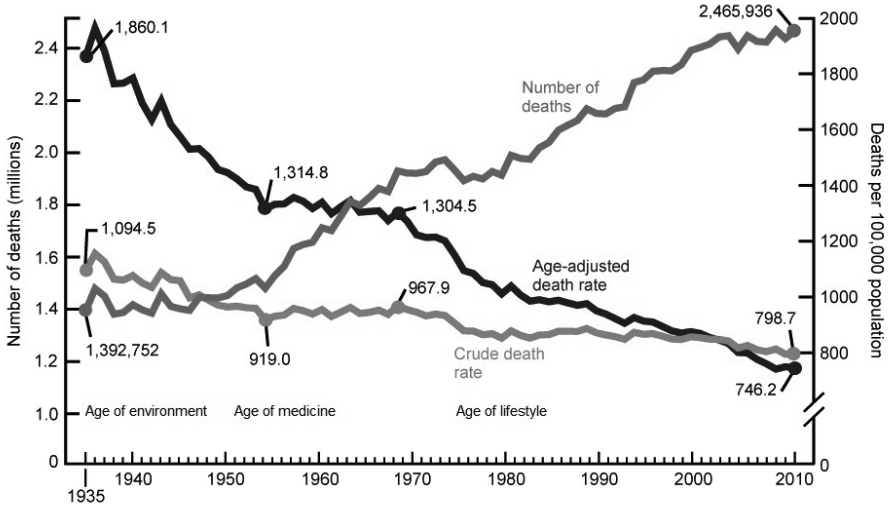

Figure 1.1 Number of deaths, crude and age adjusted rates United States (CDCNCHS, National Vital Statistics Systems, 2010 – modified)

The biomedical model was undoubtedly successful in fighting disease, however its inheritance is organisation of the health care system based on hospitals, clinics and doctors-specialists, with particular emphasis on technological development. As is now evident, the system does not adequately cope with new challenges to public health, including chronic diseases and civilisation-related diseases closely linked to human behaviour and lifestyle. This has been expressed in the US death rate reaching a *plateau*, starting from early 1950s, whereas previously it showed a systematic decrease (see Fig. 1.1).

In the context of the first findings on the impact of behaviour on health, a general hypothesis on behavioural etiology of civilisation-related diseases was formulated and positively verified. According to the Lalonde report, confirmed by subsequent analyses, the most significant factor determining human health is a person's own health-related behaviour, expressed as lifestyle. As a consequence, there is a need for changes in the health care system to deal with this challenge. Medical professionals need new skills to help their patients. This gives rise to a qualitative change in the development of health care, described as the second health revolution (Healthy People, 1979). This marks the beginning of health promotion around the world. Its essence is reflected in a well known slogan *"Your health is in your hands"*, indicating

the need for individuals to assume responsibility for their own health. The role of public policy is to create conditions conducive to this. It may be said that we have come a long way from the improvement of hygiene, vaccinations, through fascination with medical technologies, to a return towards people's lifestyle. The age of health promotion is an introduction of various promotional-interventional undertakings in order to strengthen and increase the health potential of the population and a change in social and health policies.

The science and art of health behaviour are eclectic and rapidly evolving; they reflect an amalgamation of approaches, methods, and strategies from social and health sciences, drawing on the theoretical perspectives, research, and practice tools of such diverse disciplines as psychology, sociology, anthropology, communications, nursing, economics, and marketing (Glanz, Rimer, & Viswanath, 2008). In the context of health promotion we will be interested in the social and medical perspectives of human behaviour. Health behaviour, as one of the types of human behaviour, is defined depending on the needs of the science and the paradigmatic orientation of the scientist. The term is used in many sciences (e.g. medical, sociological, psychological sciences) and authors define it or understand it in the way that is most suitable for them.

A particular interest in the studied area concerns the relationships between human behaviour and disease, health and their determinants. Behavioural epidemiology contains two distinguishable concepts which Mason and Powell (1985) clarified. One concept is the epidemiologic relationship between behaviour and disease or health; the other is the epidemiologic study of the behaviour itself and its determinants. For both processes, the means to measure the comparative incidence and prevalence of the behaviour among populations are essential. The first concept is the identification of behaviours that are causally linked to disease and these relationships are complex (Kolbe, 1998). Some behaviours may maintain health, others may threaten it. Some behaviours may have a great influence on the incidence of a given disease whereas others may have a comparatively small influence. Evidence associating some behaviours with certain diseases may be substantial, whereas evidence associating other behaviours with certain diseases may be more tenuous. Some behaviours are more prevalent in a population, others are more rare. Some behaviours must be performed frequently, others need be performed infrequently. Some behaviours have a relatively short incubation period, and thus more immediately may influence prominent health conditions. Other behaviours have a longer incubation period; consequently, the conditions they influence may not have clinical manifestations for 10, 20, or 30 years. Some behaviours may contribute to only one disease, other behaviours may contribute to multiple diseases simultaneously. Some diseases may result from the synergistic effects of multiple behaviours. The results of epidemiologic, biophysical, and clinical research often are combined to test hypotheses about the extent to which various behaviours influence health. The second concept is the application of epidemiologic methods to study the distribution and determinants of behaviours that are causally linked with disease (or health). So this is one step

removed from the relationship between behaviour and disease. In terms of smoking, for example, the second component of behavioural epidemiology is the study of who smokes, why they smoke, and, for public health workers, how we can help people to stop smoking or not start.

In the Polish literature one of the first definitions of the studied concept was suggested by Sokołowska (1968), who used a term "medical behaviour" in reference to "behaviour determined by disease or medicine". It was an expression of the contemporary research focus on issues of fighting or overcoming a disease. During the following decade the literature on the subject of understanding health behaviour was extended to include the sphere of health, like in Titkow (1983), *"human actions and activities expressed by means of behavioural variables – related to the sphere of health and disease"*, or in Ostrowska (1980) as, *"a sphere of human actions which refers to health, disease and prevention"*.

Among the definitions of the concept of health behaviour one can indicate those which focus on its behavioural dimension, as in Mackiewicz and Krzyżanowski (1981) who describe it as, *"behaviour considered from the point of view of the significance for health"*, Poździoch (1975): *"any behaviour related to human health"*, or Indulski and Leowski (1971): *"human behaviour such as hygiene habits, following a diet, doing physical exercise in order to strengthen health"*. In Mazurkiewicz (1978) we find a wider perspective relating to cognitive and volitional sphere of human behaviour: *"any behaviour (habits, traditions, attitudes, values recognized by individuals and social groups) in the area of health (...), what a person is like in terms of health is expressed in his or her health behaviour: how they understand health, how they rate it, how they manage it, how they react to other people's health"*. Similarly, Gochman established health behaviour as, *"those personal attributes such as beliefs, expectations, motives, values, perceptions, and other cognitive elements; personality characteristics, including affective and emotional states and traits; and overt behaviour patterns, actions and habits that relate to health maintenance, to health restoration and to health improvement"* (Gochman, 1998, p. 3). On the other hand, Słońska and Misiuna (n.d.) divide the defined actions depending on their perception of the relationships of the undertaken behaviour with health of a person undertaking it. In this way they distinguish health behaviour as, *"any conscious behaviour undertaken by an individual in order to promote, protect and maintain health (irrespective of its consequences)"* and health-related behaviour, which is in their opinion wider and comprises, *"any behaviour (or activity) of an individual which is an element of everyday life and affecting their health"*.

One of the ways of defining health behaviour is by referring it to the objective held by the individual (Korzeniowska, 1997). A classic example of such a systematisation of health behaviour is the proposal suggested by Kasl and Cobb (1966a, b). They distinguished three basic categories of behaviour. *Health behaviour* – denotes those actions undertaken by persons who believe they are well, and who are not experiencing any signs or symptoms of illness, for the purpose of remaining well. This usage confines "health behaviour" to preventive or protecting actions. *Illness*

behaviour – comprises those actions undertaken by persons who are uncertain about whether they are well; who are troubled or puzzled by bodily sensations or feelings that they believe may be signs or symptoms of illness; who want to clarify the meaning of these experiences and thus determine whether they are well; and who want to know what to do if they are not. *Sick-role behaviour* – denotes those actions undertaken by persons who have already been designated as being sick, either by others or by themselves. Such behaviours include – but are not limited to – acceptance of a medically prescribed regimen; limitation of activity and of personal, family, and social responsibilities; and actions related to recovery and rehabilitation.

A detailed systematization of health behaviour (by collecting a set of partial definitions) focusing also on the appropriateness of a given behaviour was proposed by Kolbe (1998), who distinguished nine categories (Tab. 1.1). The first six relate to behaviour which affects personal (individual) health of people undertaking it, and the other three relate to behaviour the effects of which affect the health of others.

Table 1.1 A Typology of Health Behaviour (Kolbe, 1998)

Wellness behaviour	any activity undertaken by an individual who believes himself to be healthy for the purpose of attaining an even greater level of health
Preventive health behaviour	any activity undertaken by an individual who believes himself to be healthy, for the purpose of preventing illness or detecting it in an asymptomatic state
At-risk behaviour	any activity undertaken by an individual who believes himself to be healthy but at greater risk than normal of developing a specific health condition, for the purpose of preventing that condition or detecting it in an asymptomatic state
Illness behaviour	any activity undertaken by an individual who perceives himself to be ill, to define the state of his health and to discover a suitable remedy
Self-care behaviour	any activity undertaken by an individual who considers himself to be ill, for the purpose of getting well. It includes minimal reliance on appropriate therapists, involves few dependent behaviours, and leads to little neglect of one's usual duties
Sick-role behaviour	any activity undertaken by an individual who considers himself to be ill, for the purpose of getting well. It includes receiving treatment from appropriate therapists, generally involves a whole range of dependent behaviours, and leads to some degree of neglect of one's usual duties
Reproductive behaviour	any activity undertaken by an individual to influence the occurrence or normal continuation of pregnancy
Parenting health behaviour	any wellness, preventive, at-risk, illness, self-care, or sick-role behaviour performed by an individual for the purposes of ensuring, maintaining, or improving the health of a conceptus or child for whom the individual has responsibility
Health-related social action	any activity undertaken by an individual singularly or in concert with others (i.e., collectively) through organizational, legal, or economic means, to influence the provision of medical services, the effects of the environment, the effects of various products, or the effects of social regulations that influence the health of populations

Another way of defining health behaviour refers to its effects (Korzeniowska, 1997). Health behaviour is considered to be any such behaviour which, in the light of e.g. epidemiological studies, affects the condition of human health (positively or negatively). For example, it includes behaviour which constitutes a risk factor in specific diseases, increasing the risk of developing the disease or death, but also behaviour which strengthens the health potential, is significant for widely defined health, e.g. in accordance with the socioeconomic paradigm. As a result of this approach patterns of behaviour are divided into harmful and beneficial for health. Their examples can be found in the European and national documents outlining the policy and strategy for health: Targets For Health For All, Health 21, Healthy People 2010.

Conceptual, terminological, paradigmatic, methodological diversity related to the use of the concept of "health behaviour" encouraged Puchalski (1989a, 1989b, 1990) to construct a formal diagram to analyse different meanings of the notion. The proposed typology presents three elements, which according to the author are components of each definition of health behaviour: the concept of behaviour (or other related notions, e.g. action, lifestyle), the concept of health (or/and disease, medicine, prevention), the way of linking both concepts. The diversity of adopted meanings of the concept of health behaviour is determined by the third element. Puchalski distinguished two planes describing this relationship: the first one describes the *relationship of behaviour with health* (defined by its direction), the second describes the *area of knowledge* where these relationships are identified.

In the first plane relating to the direction of effect, two basic types of research interest can be distinguished. The effect of *behaviour on health* (behaviour as an independent variable) – this approach is characteristic for medical sciences. Alternatively, we can study the effect of *health on behaviour* (health as an independent variable) – this is the object of interest of social sciences.

In the other plane, relating to identification of behaviour in a specific concept of reality, we can distinguish two areas of research traditionally attributed to two types of science: social and natural. The former area is the sphere of popular awareness; the subject of action decides which behaviour, from his/her point of view, is important for health, the researcher accepts this point of view - this approach is applied mainly in social sciences. The latter area is a reality independent from the popular environment, reflected in scientific concepts and theories. Knowledge is obtained from sources external from the subject of actions - this approach is applied mainly in medical sciences.

By combining the two directions of analysis and individual areas within them we obtain four fields which determine the theoretical perspective or the starting point of theoretical discussion of a scientist (Tab. 1.2). As emphasized by the author of the typology himself, the proposed borders are of conventional and fluid nature and the considered criteria do not exhaust all possibilities in this respect.

Let us try to follow the characteristics of the types of health behaviour definitions distinguished by Puchalski (1989a, 1989b, 1990).

Types I and III include in their scope those forms of activity which a researcher explains while searching for information in popular awareness of a subject (an individual or a group) carrying it out. Group I includes behaviour which a subject describes as determining health, whereas group III includes behaviour which the subject carries out with health in mind (with this intention, for this purpose).

Table 1.2 Typology of health behaviour definitions (Puchalski, 1989a, 1989b, 1990)

	Relationship between behaviour and health	
The area of knowledge:	behaviour and health	health and behaviour
knowledge of the action subject	I	III
knowledge of the action observer	II	IV

Types II and IV include in their scope these forms of activities, a justification for which is searched for by a researcher in the area of codified, objective knowledge e.g. medical, ethical, religious. Group II includes these forms of activities to which science (knowledge the researcher relates to) attributes significant, objective influence on health. Group IV includes behaviour which is the object of interest in various theoretical concepts as an effect of specific health conditions independent of a subject's thinking. Behaviour of this type is often a criterion, an indication for the assessment of health or an element of empirical generalizations describing health-dependent behaviour.

Types of health behaviour distinguished in this way are often not separated and may occur together within specific studies. These distinctions are expressed in systematizations of behaviour made in literature or in ways of defining them. Quite often the discussed concept is defined as any behaviour affecting health, where within its framework behaviour affecting health objectively (the effect of which has been confirmed in scientific studies) and behaviour considered as such in specific social groups are distinguished. In the proposed typology this is behaviour of type I and type II.

Therefore, health behaviour may have both positive and negative impacts on health. It may describe action or refraining from specific actions, it may be carried out consciously or without such an intention, result from beliefs, convictions, family or cultural traditions, popular opinions, specialist academic knowledge, it may be a consequence of availability or popularity of selected actions. In this paper it is assumed, as emphasized by Gochman, that a definition of health behaviour recognizes in addition *"that these personal attributes are influenced by, and otherwise reflect family structure and processes, peer group and social factors, and societal, institutional, and cultural determinants"* (Gochman, 1998, p. 4).

Another issue which is addressed in this paper is health. As we know, the nature of health itself is complex and abstract. A comprehensive definition of health has

been adopted by the WHO, however it is not ideal. In health promotion we focus not only on individual heath, but also take a broad look at it. Therefore, health is seen as a resource for everyday life, not an objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities. Therefore, health promotion is not only the responsibility of the health sector, but it goes beyond healthy life-styles to well-being (Ottawa Charter for Health Promotion, 1986). The principles and strategies indicated at global health promotion conferences have evolved. At the 8th Global Conference on Health Promotion in Helsinki they were described as "*Health in All Policies*", which are constituent parts of countries' contribution to achieving the *United Nations Millennium Development Goals*. They emphasize the responsibility of governments for health and equity, affirm the compelling and urgent need for effective policy coherence for health and well-being and recognize that this will require political will, courage and strategic foresight (The Helsinki Statement on Health in All Policies, 2013).

The belief that health and well-being is a social value, a measure of human development is the basis of the social and health policy of the WHO. The European health policy framework is described in *Health 2020*. In particular, it has to be emphasized that they acknowledge that health challenges are difficult to solve because of their complexity and rapidly changing requirements. The basic strategic objectives are: (1) working to improve health for all and reducing the health divide, (2) improving leadership, and participatory governance for health. In order to achieve the objectives the common policy priorities for health were indicated: (1) investing in health through a life-course approach, empowering people, citizens, consumers, patients to have control over their lives, creating resilient communities; (2) creating healthy, supportive environments for health and well-being; (3) tackling Europe's major health challenges (like non-communicable diseases and communicable diseases); (4) strengthening people-centered health systems, public health capacity and emergency preparedness, surveillance and response (Health 2020). Also the revitalizing role of health staff in this process was indicated. In order to achieve this it is essential to rethink the education of a health professional. This will entail producing a more flexible, multi-skilled workforce to meet the growing challenges in epidemiology, encouraging team based delivery of care, exploring and introducing new forms of service delivery, equipping staff with skills that support patient empowerment, and fostering management and leadership capacities (Health 2020). Inappropriate or problematic health literacy skills of adults in European countries constitute another challenge related to the development of society which has more and more information. It is paradoxical then that patients are faced with challenges related to making healthy lifestyle choices, or choices related to health care, or treatment processes, in which they are by no means prepared or supported. Studies show that weak health literacy competencies are associated with less healthy choices, riskier behaviour, poorer health, less self-management and more hospitalization (Kickbusch, Pelikan, Apfel, & Tsouros, 2013).