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## Health and its determinants. Literature review

### Introduction – the problem of health

The increased interest in the issue of determinants of health occurred as a result of socio-economic changes, known as health revolution and following the developments in the field of broadly understood health risks associated with the development of a holistic health paradigm and as a result of transformations in the field of broadly understood health, related to the development of a holistic health paradigm (Dolińska-Zygmunt 2001).

Health revolution that took place in highly developed countries at the turn of the 19th and 20th century contributed to gradual changes in the perception of health determinants, in particular in the context of its connections with human behavior. First of those revolutions, called industrial revolution, was associated with the progressive processes of urbanization and transformations of the traditional society into the more modern, industrial society. These transformations led to the multiplication of consumer goods available for the individuals, but – on the other hand – started unfavorable changes in the natural environment leading to the emergence of infectious diseases and circulatory system, cancer and strokes. This situation forced the undertaking of preventive actions, which medicine focused on the environment, and the individual was treated objectively in this process. However, these treatments proved insufficient to the uncontrolled increase in mortality due to civilization diseases.

Helplessness of corrective medicine against growing problems and health threats resulted in searching for new approaches to the health determinants problem, leading to the second health revolution – a trend referred to as behavioral medicine. It initiated interdisciplinary research on health and contributed to the extension of the existing biomedical model to include social factors and to treat human as a biopsychosocial unit (Wrona-Polańska 2003). Scientific discoveries of behavioral medicine clearly indicated the necessity to look for sources of health in the lifestyle of societies, and the behavior of the individual was considered a significant element in the genesis of preventing civilization diseases (Ziarko 2006).

Progressing transformations in the field of scientific and technical discoveries, as well as the development of holistic-dynamic psychology initiated the third health

revolution, which has not been completely done to this day (cf. Nowakowska 2010: 45). The health promotion movement, known as the science and humanist revolution, was initiated in Poland in the second half of the 20th century by the eminent physician and humanist Professor Julian Aleksandrowicz. Actions taken as part of the third Health Revolution were aimed at increasing individual and social awareness of health and pointed to the need to give health the highest value that should be promoted. For this purpose, interdisciplinary cooperation between specialists in various fields of science is necessary. Those specialists should incorporate education into health in the teaching and educational process (Wrona-Polańska 2003, 2011).

The genesis of links between the health and health behaviors should also be found in the evolution of the concept of health over the centuries. Nowadays, the dominant role of the biomedical, holistic model and salutogenetic orientation in the perception of health and its determinants is indicated (Dolińska-Zygmunt 2001).

The dominant paradigm in the medical sciences at the turn of the 19th and 20th century, referred to the biomedical model, grew out of the positivist pattern of scientific cognition based on the Cartesian-Newtonian philosophy, which was reflected in the mechanistic vision of the world and Man (Ślusarska, Dobrowolska, Zarzycka 2013). In this approach, health is an objectified category, defined by the use of medical indicators, on the basis of which disorders in the biological functions of the organism and the mechanisms of its regulation are excluded or confirmed (Wrona-Polańska 2003). The assumptions underlying the biomedical model popularized the view that the initiation of health-protecting activities begins only at the moment of its collapse and recovery is possible only through the interactions of doctors, whereas man is only passively subject to all kinds of medical procedures (Dolińska-Zygmunt 2001).

Dissatisfaction with the health care system and the harsh assessment of traditional medicine that does not take into account the needs of the ill person led to the emergence of a holistic-functional health paradigm. According to its assumptions, the individual is an inseparable whole and its health determines mutually related dimensions – physical, social, mental and spiritual (Wrona-Polańska 2003; Binkowska-Bury 2007; Kowalski 2007). At the same time, the human body perceived systemically is an integral part of a larger whole (Heszen, Sęk 2007). Considering the complicated connections between humans and the environment contained in the ecosystem model called Mandala of Health (Słońska 1994), it is assumed that the closest system affecting the person is the family and the most distant – biosphere and culture (Wrona-Polańska, 2003). There are mutual interdependencies between the various systems, as well as mutual penetration (Wrona-Polańska 2011). The ecological model of health is therefore a multi-dimensional view of a man who, being part of the world, is subject to the laws, but at the same time constitutes a functional and autonomous whole (Wrona-Polańska 2003; Dolińska-Zygmunt 2000). What constitutes the individual's uniqueness is its subjectivity, and thus the ability to manage and create one's own health, life and self in relation to the requirements of the environment (Wrona-Polańska 2003).

In the holistic-functional sense health is understood as a process in which a person strives to maintain a dynamic balance of the body in the face of changes

occurring both in the environment and its interior (Dolińska-Zygmunt 2001; Gunia 2010). This approach clearly indicates that the health level is determined by biological, social, natural and psychological factors that interact with each other and consisting of the subjective dimension of man and his health (cf. Wrona-Polańska 2011: 93). Among the various determinants of human health, the most important is attributed to the specificity of health behaviors practiced on a daily basis. This crucial for a holistic health model assumption originates from the concept of Lalonde's health fields, according to which lifestyle plays a major role in health care.

Nowadays, the issue of health behaviors is the subject of interest in health psychology and health promotion. This area is also important in modern health education programs whose main goal is to promote healthy lifestyle and health knowledge, especially among children and adolescents (Heszen, Sęk 2007).

### **Health behaviors – conceptualization of the idea**

Recognition of behavior as a significant factor in the etiology of counteracting civilization diseases and health prevention has led to a wide-ranging initiative which aim was to make each person responsible for their own health (Czerw 2012). The issue of health links with health behaviors has also become the subject of extensive analyses conducted both on the basis of medical sciences and social sciences, which led to the development of a relatively coherent way of perceiving the role of lifestyle in the life of a person (Dolińska-Zygmunt 2000).

There are many attempts to conceptualize the concept of 'health behaviors'. Today, three main areas of recognition of the importance of health behaviors are indicated: purposeful, functional and purposeful-functional (Dolińska-Zygmunt 1996, 2000; Wrona-Polańska 2003; Heszen, Sęk 2007).

The purposeful understanding of health behaviors means any form of the individual's activity, which is conscious and aimed at protecting or improving health (Czerw 2012). An example of such an approach may be the definition proposed by Sęk (2000: 539), who defines this term as "reactive, habitual and/or intentional forms of human activity that remain on the basis of objective knowledge about health and subjective belief – in a significant relation to health". Wrona-Polańska (2003) also refers to intentional conceptual approaches. She uses the term *health-promoting behavior* to describe health behaviors. Under this concept, the author understands any activity of an individual having the character of a conscious and intentional activity aimed at creating the so-called 'health potentials' (cf. Wrona-Polańska 2003: 66).

The second group of currently formulated definitions of health behaviors focuses on the health effects of decisions made. This means that health behaviors can have beneficial or adverse effects on human health. This approach is best reflected in the definition proposed by Puchalski (1990: 49), who defines the term "health behavior" as "those behaviors in which there are fundamentally unquestionable assumptions or evidence that positively or negatively affect health". In order to distinguish between behaviors conducive to or threatening health, reference should be made to the results of epidemiological studies. They strive to indicate the direction of the relationship between a particular behavior and the functioning of the body (Ziarko

2006). The most comprehensive list of health-related behaviors was presented by the European Health and Behavior Research Survey (Wardle, Steptoe 1991). These include: a healthy diet, physical activity, non-smoking, limited alcohol consumption, safe sexual behavior, avoiding stress and the ability to deal with it, moderate exposure to the sun, adherence to the rules of road safety and performing preventive test.

The third group of definitions combines a teleological approach – referring to the individual's awareness of a functional and objective approach (Wrona-Polańska 2003). In this approach understanding the concept of health behaviors is primarily conditioned by the way in which knowledge and health behaviors are linked (Ziarko 2006). This relationship between behavior and health may concern the impact of behavior on the body or the impact of behavior on the concept of health. These dependencies can take many forms (Ziarko 2006; Czerw 2012):

- person's subjective knowledge about relationships between behavior and health decides what behaviors will be taken;
- person's subjective knowledge regarding the importance of health and its determinants motivates a person to undertake activities aimed at health protection;
- objective knowledge about the impact of behavior on health decides about taking specific health-related behaviors;
- objective health concepts (biomedical and holistic-functional) encourage the individual to undertake health behaviors.
- Puchalski summarizes this analysis (1990: 56) by formulating the following definition of health behaviors: "chosen by the observer or (and) the subject of behavior (or types of behavior), which on the basis of a certain knowledge system (e.g. colloquial beliefs, some scientific concept, social ideology, etc.) remain in a significant – as defined in the accepted option – relationship with health, captured in the meaning set in this system of knowledge".

### **Characteristics of health-related behaviors**

Running a pro-health lifestyle means practicing targeted health-oriented activity and eliminating factors that threaten it (Ostrowska 1999). The list of these activities and behaviors is diverse and depends on the level of objective knowledge and on the health awareness of the society. Data collected over the last decades indicate four classic groups of behaviors that have been linked to health on the basis of scientific research, such as diet, physical activity, smoking and alcohol consumption (Ostrowska 1999; Ziarko 2006).

Practicing physical activity comes from the natural needs of people and is an inseparable element of its healthy functioning at every stage of life (Bielski 2005; Kowalewski 2006). The benefits of practicing physical activity have also been clearly highlighted in the new version of the healthy nutrition pyramid, the basis for which is the proposal to take various forms of physical activity. World Health Organization recommends that an adult should have moderate physical activity for at least 30 minutes 5 days a week. Undertaking systematic physical activity plays a significant role in the prevention of cardiovascular diseases, cancer, osteoporosis, type 2 diabetes, metabolic disorders and helps maintain proper body weight, protecting against

obesity (Ziarko 2006; Kowalewski 2006). Physical activity leads to the improvement of mental fitness, memory and concentration, as well as increases resistance to stress and fatigue (Górski 2001; Binkowska-Bury 2009). In addition, examples from the literature confirm that regular physical exercise reduces the probability of taking risky behaviors such as smoking, excessive alcohol consumption or drug use (Mazur, Woynarowska 2004; Sadowska-Mazuryk et al. 2013).

The diet is an example of another behavior, whose relationship with health scientists try to determine. The role of dietary habits as factors conducive to health, but also increasing the risk of incidence of various diseases, has been broadly discussed in the literature (Gniazdowski 1990; Sheridan, Radmacher 1998; Kolanowski 2000). Providing the right amount of vitamins, minerals, carbohydrates and proteins, as well as limiting the intake of excessive amounts of fats, sugars, sodium and cholesterol-rich products is of great importance in the prevention of health (Charzewska, Wajszczyk 2008). Irrational nutrition leads to an increased risk of coronary heart disease, hypertension, obesity, diabetes, liver cirrhosis, cancer (including breast, uterus, stomach, large intestine, rectum, pancreas cancer), bone disease, or overactive thyroid gland (Sheridan, Radmacher 1998; Gniazdowski 1990, after: Ziarko 2006).

Smoking is one of the leading examples of behaviors that make up a risky lifestyle. Since the second half of 20th century reports are continuously published on the relationship between smoking and the risk of disease (Ziarko 2006). The relationships between smoking and the following groups of diseases have been proven: cancers (including cancer of: lungs, larynx, throat, oral cavity, bladder, kidney, pancreas, stomach, liver, cervix), non-cancerous respiratory diseases (chronic obstructive pulmonary disease, asthma) and diseases of the vascular system (coronary heart disease, stroke, increased risk of hypertension) (Maziarka et al. 1983; Dębiec et al. 1993; Żołąnierz-Kieliszek 2002; Kułakowski et al. 2003, after: Binkowska-Bury 2009). The negative consequences of tobacco smoke are not limited to smokers, but also to those who live in the smoker's environment. Passive smokers have an increased risk of stroke, lung cancer and ischemic heart disease (Gniazdowski 1990, after: Ziarko 2006). There are also indications of serious disorders in the course of pregnancy (spontaneous miscarriage, premature birth) and fetal development (low birth weight) in women who smoked during their pregnancy (Gniazdowski 1990, after: Ziarko 2006; Polańska, Hanke 2004).

In addition to smoking, a serious threat to human health is alcohol abuse, the effects of which are visible in the physical, emotional and social sphere. Research on the harmfulness of alcohol consumption is not conclusive. It turns out that taking small amounts of alcohol (about 30 ml per day) can positively affect the cardiovascular system at the same time improving the health condition (Suliga 2004; Ziarko 2006). However, excessive and regular consumption of alcohol, exceeding 40 ml per day, leads to negative health consequences, among which are indicative of fatty liver, alcoholic hepatitis, liver cirrhosis, acute and chronic pancreatitis, esophagitis, acute and chronic gastroduodenal and duodenitis, changes in the cardiovascular system, anemia, impaired immunity, and fetal alcohol syndrome (FAS) (Gniazdowski 1990; Tacikowski 2001; Jarosz 2001; Kolanowski 2001; Erhardt 2002, after:

Binkowska-Bury 2009). Negative consequences of long-term alcohol consumption are visible not only in the somatic sphere, but also in the form of emotional, and social sphere dysfunctions.

In contemporary epidemiological studies, attention is paid to further categories of behaviors that may be closely related to health. An example of such connections can be the problem of stress and dealing with it. Research shows that experiencing chronic stress is associated with lower physical activity, deterioration of diet and the coexistence of metabolic disorders and its components (O'Brien, Van Egeren 1991, after: Miśkowiec et al. 2013). Long-term stress may also affect other psychosomatic disorders, such as chronic fatigue syndrome, irritable bowel syndrome and dermatological problems, as well as numerous vegetative symptoms (Ściagała 1993, after: Tylka 2000).

### **Health behavior of students**

The results of research on the functioning of young people studying at Polish universities indicate that due to their lifestyle, this group is particularly vulnerable to deterioration or loss of health (Binkowska-Bury et al. 2010; Ślusarska et al. 2012; Puchalski 1997; Ogińska-Bulik 2006). Irregular lifestyle, poor nutrition, low physical activity, inadequate coping with stress, using psychoactive substances and at the same time increased intellectual effort related to studying are just some of the factors that are significantly associated with the deterioration of the health of the young generation (Ziarko 2006; Wrona-Polańska, Kaczor 2012; Zalewska-Puchała 2013; Rogo 2016).

The research, in which the students' health behaviors were the subject of analysis, indicate that particularly disquieting phenomenon in the student environment is the low level of physical (Gaweł 2003; Nowak-Zalewska 2004; Gacek 2004). In numerous studies and research reports it is indicated that only from a few to a dozen or so percent of students declare regular physical exercise (Popławska et al. 1997, after: Binkowska-Bury 2009; Kowalewski 2006; Sochocka, Wojtyłko 2013). Similar results were reported in studies conducted with the participation of Swedish students, which show that 35% of respondents represent low level of physical activity and every third respondent described his effort as irregular (Bothmer 2005). This unfavorable trend was also noticed in the results of studies published in 2017 by the Polish Ministry of Sport and Tourism, which indicate that only every seventh (16.01%) Pole aged 15–69 meets the standards regarding the level of physical activity.

Youth who study at the universities also present numerous deviations from the principles of rational nutrition. The literature primarily draws attention to: limited consumption of milk and its products and cereal products, including dark bread, frequent consumption of salt and sweet snacks, as well as the use of fast-food meals (Brojek 2000; Gacek 2001; Gaweł 2003; Suliga 2004; Borzucka-Sitkiewicz 2009). Students eat irregularly and limit the number of meals to three during the day (Suliga 2004; Binkowska-Bury 2009).

Another issue addressed as part of the health behavior of students is the issue of avoiding stimulants. Research results show that alcohol consumption is the most

widespread among students. There is a relatively large variation in the results of research on this phenomenon and depending on the study varies from 67% to even 100% (Kowalewski 2006; Szczerbiński, Karczewski 2011; Smoleń et al. 2012). Beer is the most often consumer type of the alcohol by students (Brojek 2000; Włostowska 2001, after: Binkowska-Bury 2009), and the main reasons for using this type of stimulant include celebrating success (Binkowska-Bury et al. 2014), participation in social events and the desire to relax (Klimowicz 2004). A slightly lower prevalence is characterized by student health behaviors related to smoking nicotine. Numerous studies show that the majority of academic youth do not smoke cigarettes (Gaweł 2003; Rasińska-Nowakowska 2012; Smoleń et al. 2012; Binkowska-Bury et al. 2015).

Another important problem discussed by the authors is the phenomenon of drug use. From the research presented by Klimowicz (2004, after: Binkowska-Bury 2009) – results that 12% of the surveyed students from the Medical Academy and 27% from the Białystok University of Technology had contact with drugs. Interesting data was also provided by research conducted by Brojek (2000), which revealed that 67% of responding students admitted to drug use. Also boosters are becoming popular in the student environment. Nearly a quarter of students had contact with them (Garus-Pakowska et al. 2012). Academic youth declares using drugs most often during social gatherings, and drug initiation occurs following a peer group proposal (Pach et al. 2005).

The period of study is inseparably connected with experiencing stress, which affects the health level of the young generation (Wrona-Polańska 2003). Research indicates that the majority of students experience stress each day (Grzywacz 2012; Kriener et al. 2016), and its main sources are: examination session and improper organization of teaching (Piątkowski 1995; Grzywacz 2012). Students copes with stress by listening to music, using the Internet, drinking alcohol and searching for social contacts (Romanowska-Tołoczko 2011).

## Summary

In recent decades, there has been a significant increase in interest in issues related to health behaviors and their links with human health, as evidenced by extensive literature in this area (Dolińska-Zygmunt 2000; Ziarko 2006; Ozimek, Dąbrowska 2016).

The important role of human activity to strengthen his health is now an indisputable fact. Creating a healthy lifestyle, also among the younger generation, is reflected in the activities and initiatives undertaken both on the basis of sociological, psychological and pedagogical sciences, and – what is the most important – is the basis for comprehensive and long-term activities at the international, national and local level. An example of such impacts may be the guidelines included in the National Health Program scheduled for 2016–2020, indicating a list of factors decisive for maintaining health and improving related to it the quality of life. The main objective of the project defined as “Improving the nutrition, nutritional status and physical activity of society” aims to raise public awareness of the importance of a well-balanced diet and the benefits of taking regular physical activity in the prevention

of lifestyle diseases. The project also includes undertaking in various social groups informational and educational activities that encourage people to take a healthy lifestyle.

Raising the awareness of the young generation in the field of health and its conditions may be an important step towards a gradual departure from the biomedical approach and leading a generation to health, understood in a holistic-functional approach (Wrona-Polańska 2003). This is particularly important due to the fact that students, as future health educators, will shape the awareness of future generations about health and pro-healthy lifestyle. For this purpose, it is necessary to promote health from the youngest years of human life and at every stage of education, from kindergarten to university, in order to create positive health convictions and activate for health (Wrona-Polańska 2011).

Health promotion should be a basic tool to popularize knowledge in the field of health and aim to strengthen the students' sense of responsibility for their health. For this purpose, it is necessary to construct and implement educational programs aimed at:

- motivating young people to take more care for a good physical condition, rational rest and a balanced diet;
- developing the abilities, passions and talents of the young generation;
- strengthening the personal resources: positive self-esteem and strong sense of coherence;
- developing skills to deal with difficult situations;
- developing health-oriented ways of organizing working conditions and free time;
- encouraging to organize health-related activities at the universities to promote individual responsibility for systemically perceived health.

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## Health and its determinants. Literature review

### Abstract

Apart from medical care, medical biological equipment or physical environment, the biggest impact on our health have our behaviors. We can influence them so they will help our health, influence in a positive way our emotions, help in relations with others or in the longer run develop our social and personal resources (Wrona-Polańska 2003).

On the basis of the research analysis and literature it can be concluded that an important practical direction is to develop from a young age health awareness, i.e. knowledge about what health is and how we can influence it to develop it. Education should aim at continuous development of knowledge of health and its conditioning, promote a healthy lifestyle expressed in conscious activity aimed not only at avoiding a certain group of behaviors (e.g. smoking cigarettes, drinking alcohol) but above all developing health potentials (e.g. sensitizing young people to art, music, beauty of nature in order to trigger positive emotions that mobilize the body to deal effectively with everyday challenges).

These actions are necessary so that a holistic, functional approach to health can gradually penetrate into the ordinary consciousness of young people and consequently lead to their conscious control and regulation of their own health.

**Key words:** health, health behaviors of adolescent students, education

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