SELECTED BASIC DETERMINANTS OF HEALTH AND THEIR IMPORTANCE

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ABSTRACT

The environment, both natural and man-made, is one of the factors that affect human health and well-being (so-called environmental health). We are breathing in air, drinking water, eating food, while changes in weather affect us. We are subject to the conditions in which we work and live, even the products we use on daily basis influence our health. The relationship between the environment and health is a complex interaction of these factors in the environment where the individual lives. Exposing a human to pollutants from the environment can trigger the onset of diseases, most often chronic, which unnecessarily deprive an individual of years spent in health and well-being. These factors cannot only be influenced by health policy itself. Co-ordinated cross-sectoral measures, joint strategies, initiatives whose joint penetration can provide adequate solutions to environmental health problems are needed. There is, therefore, a reason to believe that if an interdepartmental approach is used to address the issue, attention will be focused on health through relationship and environmental considerations, efforts and work to protect the environment will be better understood and given a higher social priority.

Keywords: Health, Determinants of Health, External Factors, Data Analysis

INTRODUCTION

Health is without a doubt the result of many decisions that go also beyond healthcare. It is significantly influenced by external factors and thus by the polluted environment. It is therefore essential to promote and apply the 'Health in All Policies' approach. Attention in this work is focused on some selected basic determinants and their deeper elaboration, which significantly influence the quality of our health and also correlate with each other. The key

determinants of health are regarded as absence of education, poverty, unemployment, stress and social support.

The low level of education is also very likely to be associated with a lower probability that people will follow the principles of good nutrition. Lower education also means lower employment and much lower monthly wages, and they are unaware of the avoidance of risky behavior, not well aware of the principles of the appropriate diet, which will have a prophylactic effect and prevent the emergence of various diseases. Similarly, it results in various diseases in the early stages of the disease. Also the relatively high numbers of people with basic education are the most unemployed, which negatively impact their health. The negative impact of unemployment on health is evident and once (just recently) the leading position of Slovakia among neighboring countries was worrying. However, Slovakia must be prepared for this possible scenario in advance and to look for alternative solutions today. Because, in particular, by increasing the educational level of people, the assumption of positive behavior towards one's own health will grow, of course, also a greater chance of employment will appear.

According to the Statistical Office of the Slovak Republic in 2011, Slovakia was inhabited by 5,397,036 citizens. Out of this, 808,490 citizens (graduates of primary schools), expressed in % 15.0, had 721,999 (without graduation) in % 13.4, secondary vocational abs. 522 039 (without graduation) in % 9,7, full secondary apprenticeship abs. 191 208 (with graduation) in % 3,5, full secondary vocational abs. 1 089 751, (with graduation), in % 20.2, complete medium general abs. 235 014, undergraduate bachelor abs. 122 782 in % 2,3, university degree abs. 584 544, engineering, doctoral in % 10,8, university doctoral abs. 40 642 in % 0,7, without school education abs. 846 321 incl. children under 16, in % 15.7, unknown abs. 153 630 in % 2.8. (Meciakova et al, 2017).

Similarly, poverty also negatively impact health and in the UK, the study of Rose and Marmot (1999) investigated coronary heart disease mortality in four economically different social groups in relation to known risk factors: Cholesterolemia, Smoking, Hypertension, Stress, etc. The results clearly confirmed that in the socially weakest class, mortality was up to four times higher than in the economically strongest group. A remarkable number of evidence suggests that there are such links between poverty and health that cannot be explained by known risk factors or lack of access to medical care. In one of the best-

known studies (1982), 17,350 civil servants were studied in England. The data confirmed higher mortality in lower social classes. One of the most common explanations for differences in health is based on the behavior of poor people that is more risky from a health point of view. Haan and his co-workers (1984) analyzed findings from a randomized population mortality survey in Oakland, California. Citizens who lived in the poor area were compared to the people who lived outside these neighborhoods, the richer and the more favorable. Poor mortality has been shown to be 1.5 times higher than in "rich". They also explained how the influence of the physical environment, the stronger impact of social stressors and the more risky behavior - alcohol, cigarettes, drugs, prostitution and so on (Hann et al., 1984).

Research studies shows that in 2016, 12.7 percent of the population of Slovakia, meaning 670 thousands of people, was at risks of poverty. Compared to the previous year, this is an increase of 0.4 percentage point, or about 30 thousand people. The poverty risk of a one-person household is 4 171 Euros per year, which is almost € 348 per month. In 2015, it was 4 158 Euros per year. Last year, the most vulnerable to poverty was unemployed, up to 48 percent of them, a year-on-year increase of 2.5 percentage points. In terms of the type of households, there are multiple households with three or more dependent children (34.8%) and single parents with at least one child (33.6%). These are the results from the 12th EU SILC 2016 survey, the results which were presented by the Statistical Office of the Slovak Republic (St.office of SR). Poverty is the outcome of unemployment which further aggravated the health condition.

Unemployment causes not only financial, but also psychological problems, and its negative impact is due to the uncertainty of work associated with anxiety, dismissal, deepening insecurity, hopelessness, despair and depression. Prospective studies have repeatedly found that these mental conditions increase the risk of cancer and cardiovascular disease (Gienter, 2001). In his study, Whelan (1992) has shown that acute and chronic stress converges in the event of unemployment, unite and have an increased impact on the health of the unemployed. The consequences also affect the family role and relationships, while the family background is an important source of social support. Another impact can be to break away from society, loss of interest, illusions, work habits, skills, inner insecurity, sense of uselessness, inability, reduced self-esteem, increasing crime, civic disobedience, often inclination to extreme groups and so on. Unemployment leads to a lowering of the standard

of living, often to poverty, and it reminds us the Italian scientist J. P. Frank of what he said about poverty as a mother of diseases. Murphy and Athanasou (1999) studied 16 studies dealing with the relationship between job loss and mental health. They found that in 14 studies the unemployed reported deterioration in health, more disease symptoms in standard methods. The level of these symptoms decreased after returning to work (Feldmann, 1982). Destructive changes related to unemployment have been shown not to be limited to the psyche. The physical health of the unemployed is worse than that of the employed. According to British data (Dean, 1993), a middle-aged man who has lost his job is twice as likely to die from cancer, myocardial infarction, suicide, accident, violence, as an employed in the next ten years. It is also clearly proven that unemployment is also related to the most widespread behavioral disorder- alcoholism. Let us summarize that social, psychological, behavioral, and health problems are linked to unemployment, so it cannot be seen as a personal, personal issue (if he wants to work), but a serious social problem for which satisfactory solution for the individual is on the shoulders of the whole society, its governments, parliament and self-government.

In Slovakia, unemployment is being successfully tackled, although some experts point out that very often these are administrative measures harming the employee himself, e.g. because of long-term detachment, disproportionately long traveling for work, withdrawal of half disability pensions, etc., which also does not contribute to the satisfaction of living of a large part of the population. In addition, some are forced to have an employment relationship to improve their economic status, in addition to their main job. Finally, this also becomes one of the very serious reasons for family alienation, often ending in divorce, that is, social separation (Shahum et al., 2017). In 2018, unemployment in Slovakia decreased by 19.9% year-on-year to 179.5 thousand people and unemployment rate decreased to 6.6% (St.office of SR).

In the original concept developed by the Hungarian-Austrian-Canadian doctor Hans Selye (January 26, 1907 - October 15, 1982), stress does not mean the burden on the body itself, as is commonly interpreted today, but the organism's response to this burden. Stress factor, to which the body responds with stress response, he called a "stressor". Thus, a stressor is a factor that induces stress and disrupts the equilibrium state of the organism, the so-called homeostasis. The stressors can be impulse from the outside i.e. cold, heat, predator occurrence, social relationships, work environment, unemployment, etc., but also an internal

environment disorder such as pain, fever, inflammation and others. As a result of the action of diverse stressors, Selye has described stereotypically recurring changes in the organism, suggesting that a stress response is a non-specific response to various types of stressors. However, the following research has shown that different types of stressors induce specifically different responses (Hann et al., 1984). Therefore, the classic Selye concept of stress is getting into the background and today we can define stress as a set of specific defense responses of the organism caused by specific stressors.

In recent years, reports have been accumulating confirming the decisive role of social factors in terms of both the health of individuals and the population as a whole. Experimental and clinical studies show that physical, mental, or psychosocial stress can trigger various cardiovascular (CV) disorders, with social relationships having a significant share of stress in socially organized mammals, including humans. Although in some European countries (e.g. Finland) the incidence of CV disease is gradually decreasing, cardiovascular disease is still growing in Eastern European countries and this phenomenon is called "Central-Eastern European Health Paradox". It is likely that in Eastern European countries the effects of classical risk factors, such as smoking, alcohol and diet containing large amounts of fats and sugars, are reinforced by other factors that have not yet been identified, such as chronic social stress.

Social stress arises as a result of interactions between individuals within a social group. Social stress is difficult to identify and its essence is difficult to express, because the interaction forces between individual living beings are more complex and more difficult to capture than physical forces between inanimate bodies. Thus, the relationship between chronic stress and cardiovascular disease is much more unclear than other risk factors (smoking, high cholesterol, obesity, alcohol, diabetes).

The consequence of unfavorable social conditions is a long-term psychological stress that activates a number of biochemical reactions causing depression, anxiety, and hopelessness. Scientists have confirmed that stress hormones such as catecholamines and corticosteroids that activate the hypothalamus and hypophysis are indicators of the sympathetic - adrenaline system that is activated under stress, that is, whenever a person gets into a complex, uncontrollable, ambiguous, difficult life situation. Stress - feelings of anxiety, fear, and agitation cause catecholamine activation - adrenaline and noradrenaline. The hypothalamus, which activates the production of catecholamine and the

adrenocorticotropin hormone (ACTH), is considered to be the central stress hormone of the body that documents the onset and development of a stress response. It is involved in immune changes, which is related to its weakening and subsequent occurrence of, for example, ulcers, hypertension, the development of ischemic heart disease, asthma, migraine, rheumatoid arthritis, menstrual cycle impairment, white blood cell function impairment, worse wound healing, anorexia or vice versa overeating, depression, other mental illnesses, suicides. The so called syndrome is also known burnout syndrome; for example, at dept. palliative or hospice care (Khaled et al, 2017).

Long-term stress reduces the activity of immune systems and increases the risk of developing cardio-vascular morbidity and mortality. Stress is also more pronounced due to long-term political and economic instability, e.g. high unemployment. Sir William Osler (1910), whom they called "The Father of Epidemiology", claimed that "... *traders who ''lived" intense lives, absorbed in intense work and devoutly devoted to their home tended to have angina pectoris* ". The individual differences that apply to the situation of severe stress have been addressed by several researchers. Several researchers (e.g. Bettelheim, 1953, Dimsdale 1974) studied characteristics of people who survived concentration camps. It is now proven that life events can cause a sense of stress that, in the presence of a pathogen (virus, etc.), in the environment or some physiological susceptibility to a disease (e.g., cardiovascular system) can actually lead to serious illness (Kaplan, 1996).

In 2017, 374,167 persons (687.4 per 10,000 inhabitants) were examined in psychiatric clinics in Slovakia with the established diagnosis. In terms of gender, women predominated (770.7 per 10,000 women) compared to men (600.0 per 10,000 men). In 2017, 395,197 patients were monitored on a long-term basis and 74,130 were newly-reported patients. In Slovakia, 506 persons died of suicide in 2017 (81% men, 19% women) and 841 persons attempted suicide (55% men, 45% women) (Statistical Office of the Slovak Republic, 2017). In avoidance of many diseases and promoting health social support is very necessary.

The results of epidemiological studies have shown the importance of social support. It was found that men with weak social ties were almost 2.5 times more likely to die within a certain period of time than men with an extensive network of social contacts. The advantage of women with constant social ties was even greater (Welin, 1985). Also, several studies have confirmed that combining high stress and low support for the social environment is a

particularly effective predictor of a negative outcome. For example, in the Framingham study, up to 142 women suffered from cardiovascular disease, worked as clerks under heavy workout, and had no emotional support from their husbands (Hegyi, 2001). The Haynes Study, in which Swedish workers were surveyed, showed that excessive numbers of cardiovascular diseases had workers who felt low support for the social environment and considered their jobs stressful (Berknamm and Breslow, 1983).

CONCLUSION

So far, there are no sophisticated methods and no perfect monitoring systems capable of completely eliminating these risks. Positive or negative environmental impacts will not be felt immediately. This requires a longer monitoring period. It is therefore important to support the efforts of responsible professionals - in a timely manner to promote and take appropriate measures, to help minimize risks, maintain and improve human health, and preserve and improve the environment for future generations. Only by systematically acquiring, collecting and processing targeted data we will be able to better assess the causality between priority areas of environment and health and then formulate new roles and actions. For this reason, in particular, regional public health authorities should focus their attention on professional monitoring, consolidate forms and improve the survey methodology, as well as develop their findings in the final evaluations with proposals to take measures to streamline, improve and highly professionalize collection and evaluation data. Therefore, we consider it essential to continue strengthening efforts to address the main environmental determinants, affecting both the individual's health and the general population, such as air pollution, water pollution, poor drinking water supply, hazardous chemicals, noise, waste, contaminated areas and climate change. Improving the quality of the environment is a condition for creating a healthy residential environment for quality life.

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