

Constitutive importance of lifestyle in health protection and promotion

Konstytutywne znaczenie stylu życia w ochronie i promocji zdrowia

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Aktywność fizyczna w stylu życia człowieka jest jedną z podstawowych biologicznych i psychicznych potrzeb człowieka w całym okresie jego życia. Pełni ona różnorodne funkcje m.in. stymulującą i wspomagającą rozwój, adaptacyjną, kompensacyjną itd. W okresie dorosłości i wieku podeszłym znaczenie aktywności fizycznej jest równie istotne. W tych okresach aktywność fizyczna zapobiega występowaniu wielu chorób m.in. chorób układu krążenia, które stanowią najwyższą umieralność w Polsce. Poważnym problemem we wszystkich krajach cywilizowanych jest niezadawalający poziom aktywności fizycznej, zarówno w grupie dzieci i młodzieży w wieku szkolnym, jak i osób dorosłych. W większości preferowane są zachowania sedentaryjne. Celem niniejszego referatu jest przedstawienie znaczenia fundamentalnego stylu życia (ze szczególny uwzględnieniem aktywności fizycznej) dla zdrowia człowieka (w tym zdrowia psychicznego).

Niewłaściwy styl życia jest główną przyczyną złej sytuacji zdrowotnej mieszkańców Polski na tle innych krajów Unii Europejskiej. Najczęstszymi zagrożeniami zdrowia są: nikotynizm, narkomania, alkoholizm oraz otyłość. Styl życia jest bowiem podstawowym czynnikiem warunkującym zdrowie człowieka. Na styl życia składa się m.in.: utrzymanie wszechstronnej aktywności fizycznej. Korzyści jakie płyną z podejmowania systematycznej aktywności fizycznej są ogromne m.in. zmniejsza ryzyko chorób serca, cukrzycy, chorób nowotworowych, otyłości itd. Należy więc dla poprawy sytuacji zdrowotnej podjąć wszechstronne działania w kierunku zwiększenia świadomości zdrowotnej społeczeństwa zwłaszcza u dzieci i młodzieży w wieku szkolnym.

Słowa kluczowe: zdrowie, aktywność fizyczna, promocja zdrowia

Physical activity as a part of human lifestyle is one of the basic biological and psychological needs throughout our entire lifetimes. It performs a variety of functions, among other things, it stimulates, supports development, facilitates adaptation, compensation, etc. In adulthood and old age, the importance of physical activity is equally important. During these periods, physical activity helps to prevent many diseases, such as cardiovascular diseases, which have the highest death rate in Poland. A major problem in all civilized states is an unsatisfactory level of physical activity in children and young people of school age, as well as in adults. Most people prefer sedentary lifestyles. The purpose of this paper is to present the fundamental importance of lifestyle (with special regard to physical activity) for human health (including mental health). An improper lifestyle is the main cause of poor health situation of the Polish population as compared to other EU states.

The most common health risks are: smoking, drug addiction, alcoholism and obesity. The lifestyle is in fact the primary determinant of human health. The lifestyle comprises engaging in many kinds of physical activity. The benefits that arise from regular physical activity are considerable, such as reduction of the risk of heart disease, diabetes, cancer, obesity, etc. Therefore, to improve public health, one should take all kinds of steps aimed at increasing health awareness of the society, especially in children and young people of school age.

Key words: health, physical activity, health promotion

© Hygeia Public Health 2014, 49(4): 665-671

www.h-ph.pl

Nadesłano: 02.11.2014

Zakwalifikowano do druku: 12.11.2014

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Introduction

Lifestyle is a crucial element of the struggle for improvement of public health, reduction of morbidity and premature mortality. Its one important component is physical activity – a fundamental biological human need throughout the entire life. The essence

of physical activity is physical effort associated with the work of skeletal muscles and the accompanying multitude of functional changes in the body, as well as energy expenditure. Physical activity is related to everyday activities, professional work, education, recreation, commuting, etc. [1-3]. In childhood and

youth, physical activity is like oxygen – something one cannot live without. It performs stimulating and development-supporting functions, adaptive and compensatory functions, it prevents developmental and health dysfunctions. In adulthood and old age, the importance of physical activity cannot be underestimated. During these periods, physical activity prevents the occurrence of many diseases and premature involution of motor skills, it slows aging processes and prevents motor infirmity [4-6].

It is important to take up regular physical activity [7-10]. Its correct level makes it possible to engage in it throughout the entire life. In many states, experts develop recommendations regarding physical activity. One new approach is to encourage people to increase physical activity in their everyday lives. According to experts from England, Canada and USA, the recommended level of physical activity is a minimum of 60 minutes of activity of moderate intensity every day [11-14].

In the recent years, all civilized states have encountered a problem of reduced physical activity in children, adolescents and adults. Most people prefer sedentary behaviour which is characterised by a lack of mobility. This includes reading, watching TV or computer work [2, 6, 15-17]. Therefore, to improve the health situation, it is necessary to implement actions to increase public awareness of the importance of physical activity for health. It is the responsibility not only of doctors, but also of teachers, educators, parents and health promoters.

The purpose of this paper is to present the fundamental importance of lifestyle (with special regard to physical activity) for human health (including mental health).

Health situation of Polish people

In Poland, the highest mortality is caused by cardiovascular diseases and cancer [12]. In 2010, cancers were the main cause of death in the EU – their mortality rate was 166.9 deaths per 100.000 inhabitants. However, for more than 50 years, cardiovascular diseases have been the most frequent cause of mortality of the Polish population (Fig.1) [13, 18].

In 2012, approximately 45% of deaths were caused by cardiovascular diseases. This was the cause of death of nearly 178 thousand Poles, including 83.613 men and 94.352 women. Among cardiovascular diseases, the ischemic heart disease and cerebro-vascular diseases remain the most important causes of mortality in Poland. Deaths due to these two groups of diseases account for nearly 50% of deaths from cardiovascular diseases among men and 44% among women. The percentage of men and women, evaluating their own

health as very good or good according to age, in Poland and the average in the European Union in 2009-2010 [10, 19-21].

Life expectancy in Poland and EU states

The analysis of data on the mortality of Polish population leads to the conclusion that the health condition of the population has been gradually improving since 1991, but compared to other European Union states is still unsatisfactory. Additionally, since 2000 this improvement has slowed down, particularly in the case of men [22-24].

The average life expectancy in Poland has been increasing since 1991, but since 2002 this growth has slowed down. In 2007, life expectancy for men was 71.0 and for women it was nearly 9 years more, amounting to 79.7 since. Since 2001, the unfavourable differences in life expectancy between men and women have deepened. According to the Eurostat's estimates, Polish men remain healthy for 86% of the length of their lives (without a reduction of physical fitness), and women – for 84% of their lives. Those aged 65 years can expect to enjoy health for more than one half of their remaining lives, with nearly 2 years more for women than men.

The length of life of the Polish population is clearly shorter than the average in the European Union states

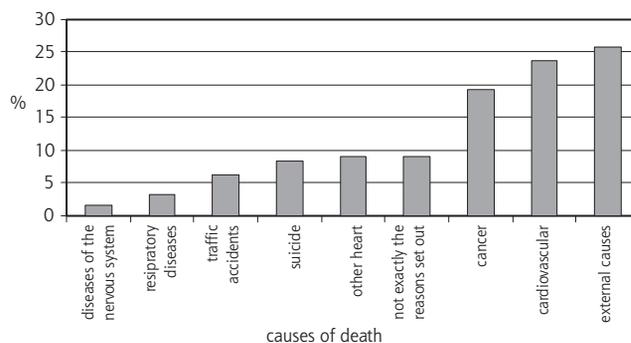


Fig. 1. Percentage of major causes of death, in lost potential years of life of men in Poland, 2010 (Ottawa Charter for Health Promotion, 1986)

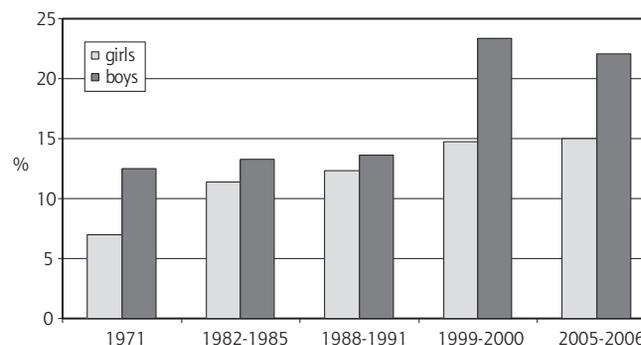


Fig. 2. Average life expectancy in Poland and in the European Union (Ottawa Charter for Health Promotion, 1986)

– in the case of men, by 4.6 years and of women by 2 years. Unless more intensive efforts to improve public health are implemented it will take decades to achieve the life expectancy of men in Poland that is currently average in the EU (Fig. 2) [23, 24].

The length of life is strongly affected by social factors – those aged 25 years and having higher education can expect to live about 13 years longer in the case of men and 9 years of women than those with primary education [7, 18, 22, 23].

Changes over time and differences in life expectancy of Polish population

In 2007, the average life expectancy for men was 71.0 and for women – 79.7 years. The length of life of the Polish population has been systematically increasing since 1991 and during this period it has gone up by nearly five years for men (4.9 years) and about half a year less for women (4.4 years).

The over-mortality of men in comparison with women, and a shorter life expectancy for men as a result is particularly noticeable in Poland. It is disturbing that there has been no improvement in this area, and that since 2001 the differences in life expectancy of men and women have been deepening.

We estimate that two-thirds of this difference stem from a higher, premature (under 65 years of age) mortality of men as compared to women, and in one-third, from the higher mortality in the old age, over 65 years. The problem of a considerably shorter life expectancy of men does not seem to draw enough attention in the literature of the subject [23, 25].

Risks to human health

The health situation of the Polish population appears poor when compared to other states of the European Union. Major health risks include: smoking, drug addiction, alcoholism (Tab. I), obesity (currently, there are one billion of overweight adults worldwide, and 300 of million obese adults – the problem of excess body fat relates also to a growing number of Poles) (Fig. 3), chronic diseases, motor skills disorders, risky sexual behaviour [26-30]. Moreover, one should not forget the issue of stress, which in the literature is indicated as a more dangerous risk factor of death than smoking, and the reason for 5 to 70% of medical consultations [6].

Also other causes: biological (microbial or parasitic epidemics), chemical (pollution of air, water, food), physical (vibration, noise), geological (eg. soil degradation) [4].

The health of individuals and groups in all cultures depends on many different factors. The role and hierarchy of importance of each factor may vary and change along with the change of health model.

Lifestyle

The turning point in the perception of importance of individual factors was a report by the Minister of Health of Canada, M. Lalonde (1974), which provided the basis for health policy in Canada (Fig. 4) [2, 3, 6].

The concept of “health fields” prompted the development of the socio-ecological model of health and changes in health policies around the world. People realised that their lifestyle had the greatest impact on their health and by means of introducing positive

Table I. Frequency of smoking, beer and vodka drinking and intoxicating among adolescents aged 11-18 years in Poland (% of respondents) (Ottawa Charter for health promotion, 1986)

Behaviour	Boys (aged – in years)				Girls (aged – in years)			
	11	13	15	18	11	13	15	18
They smoke regularly*	1.8	5.1	18.6	34.0	0.7	4.9	14.2	30.6
occasionally**	1.7	3.3	5.6	6.0	0.3	3.1	7.0	5.7
They drink every week, some every day:								
beer	1.2	3.8	14.9	47.3	0.5	2.3	5.2	17.4
vodka	0.4	0.9	3.5	10.7	0.1	0.2	1.3	2.7
They were intoxicated at least once	14.4	28.8	57.5	86.1	6.0	23.6	48.2	76.1
4 times or more	2.1	4.9	22.7	58.3	0.2	1.6	10.3	25.1

* regularly – daily or at least 1 time per week; ** occasionally – less frequently than 1 time per week

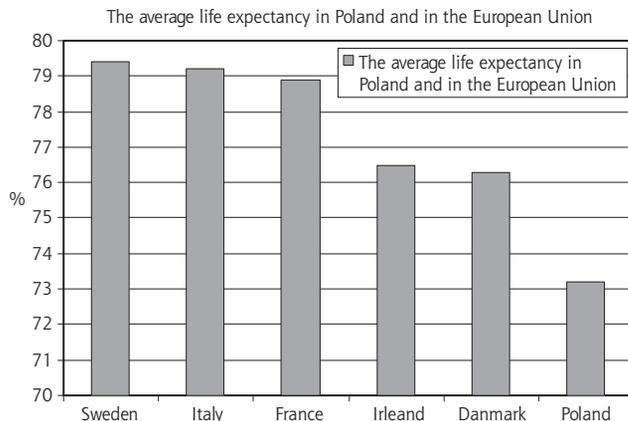


Fig. 3. Growing trend in occurrence of overweight and obesity among young people in Warsaw between 1971-2006 (Ottawa Charter for Health Promotion, 1986)

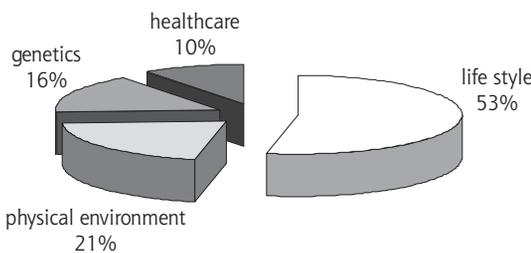


Fig. 4. Lalonde health field (Woynarowska, 2008)

changes to the lifestyles their health can be improved [2]. The word “Lifestyle” is derived from English (the style of one’s life).

The concept was introduced to psychology by Alfred Adler. It refers to the way of living that is individual and specific for each person: including their characteristics, interests, values, etc. [31].

The lifestyle depends on: the environment a person identifies with, social norms, personal beliefs and values, general economic and political structure of the society [3, 32, 33].

Therefore, the lifestyle includes: proper nutrition, engaging in comprehensive physical activity, developing stress management skills, keeping body defences in constant readiness, improving one’s immunity, not abusing drugs, eliminating addictions, kindness to other people, keeping a positive attitude despite hardships of life [2, 3, 13, 28].

Different terms are used when talking about relationships between lifestyle and health: a healthy lifestyle, a lifestyle fostering health, a pro-health lifestyle. A healthy lifestyle means that people take conscious actions aimed at increasing their good health potential and at eliminating health risks. According to A. Ostrowska, in the research on healthy lifestyles the term “lifestyle” is oversimplified, as only various pro-health behaviours are being considered. Among these behaviours, those related to physical health and physical activity deserve special attention [28].

There are numerous benefits of an active lifestyle. They include, among others:

- a. reduced risk of obesity – more and more data show that a reduction in physical activity is a major factor behind increased incidence of obesity. Many studies have demonstrated the beneficial effects of physical activity and healthy lifestyle in preventing obesity. It seems that physical activity protects against an increase in body weight, typical for middle age. The physical activity is also an important supplement of the dietary treatment of obesity [14, 24].
- b. reduced risk of heart disease – people with active lifestyles, which include moderate physical activity, are twice less prone to heart disease than people with sedentary lifestyles. Even obese people who remain active have a lower risk of heart disease and diabetes compared to those obese people who do not exercise [5, 18]. As indicated in the document “Global Strategy on Diet, Physical Activity and Health” by WHO (2010), thirty minutes of physical activity five times a week reduce the risk of cardiac diseases.
- c. reduced risk of diabetes – lack of physical activity is a risk factor for the type 2 diabetes. Those having a lot of physical activity are about 33-50% less

threatened by diabetes. In patients with diabetes, physical activity helps to achieve good blood sugar concentration levels [8].

- d. reduced risk of cancer – moderate and high physical activity reduces the risk of colorectal, lung and breast cancer [9].
- e. healthy muscles and bones – regular physical activity strengthens the muscles, tendons and ligaments, and fosters greater bone density. Some forms of activity, such as jogging, roller skating and dancing increase bone density in adolescents, help maintain high bone density in adults and slow down the loss of bone density (leading to osteoporosis) in the elderly [34].
- f. effects on mental health – several studies have shown that physical activity improves psychological well-being, facilitates coping with stress and improves certain mental skills (such as quick decision-making, quick planning and short-term memory), reduces anxiety and improves the quality of sleep. The data from clinical trials show that physical activity can be used to treat depression. In elderly people, physical activity can reduce the risk of dementia and Alzheimer’s disease [9, 27, 28, 35, 36]. A moderate physical activity protects the central nervous system. It augments formation of new neurons, enhances cognitive skills and delays the development of many degenerative diseases of the nervous system [37].

Physical activity is one of primary human needs, which is associated with the psychological need of independent movement. It is one of the basic elements of preventive care. Its beneficial influence affects the physical and psychological well-being of people.

An increased secretion of endorphins as a result of physical activity can reduce perception of pain and bring about a deep feeling of satisfaction. It also lowers the level of stress [38]. The absence of physical exercise may lead to chronic fatigue. Neurotic diseases may develop as a result of decreased well-being. The lack of physical activity leads to reduced physical endurance, i.e. tolerance of physical activity, as well as of homeostasis disorders [39].

As indicated in the study of Gębska-Kuczerowska [40], there is a close relationship between physical activity of elderly people and their health. National surveys have shown that active people evaluate their health condition as better and require less hospital care. In addition, active seniors have better mental health.

Effect of physical activity on human emotional sphere

Numerous studies [1, 13, 22] have shown that the physical activity improves psychological well-be-

ing, facilitates coping with stress and improves some mental skills (such as quick decision making, quick planning and short-term memory), reduces anxiety and improves the quality of sleep.

Psychologists look for the impact of regular physical exercise primarily in the emotional sphere. Emotional states – those that are short-lived and caused mostly by external stimuli – may change under the influence of physical activity. The evaluations of emotional states are carried out directly before physical exercise and after it, with the help of the conventional psychological methods that employ scales and questionnaires [41].

Researchers provide strong evidence of benefits from regular physical activity for the emotional sphere. The regular activity contributes to lowered rates of anxiety and depression, and the advantages of regular exercise are noticeably higher than in case of exercising occasionally. Strong antidepressant effects appear already after a few weeks, even before a visible improvement in the physiological parameters. Before our physical fitness and endurance increase, and our body mass reduces, we can already feel the positive emotional effects. In older people, physical activity can decrease the risk of dementia and Alzheimer's disease [22, 41].

Thus, the physical activity does not affect only the somatic development and physical capacity of the body. For years there has existed a belief, supported by scientific evidence, that the physical activity also strengthens the nervous system, increases intellectual performance and decelerates the decline of cognitive skills.

In a study by Osiński [41], a positive impact of physical activity on school achievements and better results during the exams was demonstrated. For years, the cause of this phenomenon was believed to be an improved blood flow to the brain, a better mood, increased mental alertness and self-esteem.

The later meta-analyses fully confirmed these positive relationships between physical activity and cognitive capabilities of children and adolescents (aged 4-18 years). These observations concerned: perception skills, indicators of intelligence, school performance, verbal tests, math tests and levels of school readiness. It is interesting that at the same time a negative relationship between body mass index (BMI) and school performance was observed. Moreover, the results suggested that although the physical activity was important at all stages of life, an early stimulation might be particularly important for improving and maintaining the efficiency and function of the mind in adulthood [37-39].

The beneficial effects of physical activity programmes on the psyche and lifestyle elements (on the behavioural level), supported by scientific studies:

Physical activity, psyche and lifestyle: an optimistic mood, better well-being, higher self-esteem, reduction of anxiety and stress, support of the depression treatment, an overall improvement of mental health; control over emotions, better multi-tasking and attentiveness; improvement of long-term memory and slowing down of cognitive decline; opportunity to make acquaintances and friendships, spending enjoyable time with other people, reduction of alcohol consumption and smoking, as well as a reduced tendency to use drugs.

It must be admitted, however, that although the scope of research on the impact of physical activity on the human psyche has been steadily expanded, our knowledge of the neurobiological background (on all its levels) of these psychological benefits of physical activity has been limited for a very long time [1, 12, 22, 37, 39, 40].

Health promotion

The health promotion is a process of enabling people to increase the control they have over their own health, to keep it at a right level or improve it [4, 42-44]. Health is not an aim in itself but is believed to be a way to fulfil aspirations, satisfy needs, as well as transform and control the environment. The health promotion is not focused on population groups threatened by certain diseases, but it motivates the whole society for active participation in actions undertaken for the benefit of public health. These activities are aimed at affecting the determinants of one's health condition [13, 45].

Prevention – is one of the most important pillars of health promotion as it prevents diseases, their spread, and “improves human health”. The main component of this pillar is the physical activity [4]. The health care – is an equally important pillar of health promotion; it is concerned with the improvement of health (in 10%) [36, 46]. Health education is a lifelong process of teaching people how to live in order to keep and improve the health of their own and others and how to participate actively in the treatment, how to cope with negative effects of illness or disability and reduce them, in the event of their occurrence [2].

Levels of physical activity of students

The 2010 HBSC study (Health Behaviour In School-aged Children) on health behaviour of young people from 39 European states and Israel, Canada and USA, conducted by the Institute of Mother and Child in Poland, showed that in the school year 2009/2010, only 18% of youth aged from 11 to 18

years participated in moderate physical activity, in the recommended daily dose [19].

These data concern the sum of time spent on physical activity during PE classes as well as during any additional and free-time activities. The research shows that students' participation in physical activity starts dropping down as early as in the school age. As many as 24.4 % of young people are exempted from PE classes.

According to the Ministry of Sports and Tourism, the percentage of students engaging to a suitable extent in physical activity is unsatisfactory at each level of education, however, one should be especially concerned about the drastic decline of physical activity in young people as they move on to successive stages of education. The downward trend of participation in physical activity for girls is particularly visible [8].

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