

ISSN: 2219-8229

E-ISSN: 2224-0136

Founder: Academic Publishing House *Researcher*

DOI: 10.13187/issn.2219-8229

Has been issued since 2010.



European Researcher. International Multidisciplinary Journal

Pedagogical Sciences

Педагогические науки

Lifestyle, Physical and Sports Education and Health Benefits of Physical Activity

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Abstract. We present the words and opinions concerning health benefits of physical activity that are largely discussed worldwide but less in Slovakia. Our goal is to spread the knowledge of health benefits of physical activities in pupils' lifestyle and their impact on the development of a new concept of physical and sports education in Slovak schools.

The theoretical knowledge is a part of the grant called: VEGA č. 1/0376/14 Intervention Physical Activities Aimed at Disease Prevention of the Population in Slovakia.

Keywords: benefits; physical education; physical activity.

Introduction. Health is a state of complete physical, mental and social well-being and comfort. What is more, it is the condition of the body that provides its optimum self-regulation as well as the balance between its functions and the environment (human homeostasis). Recently, this word has been widely discussed. Health is genetically determined and it is also affected by the environment, lifestyle and the health care system quality. According to the World Health Organization (WHO, 2010), human health depends on ecological conditions (21 %), genetics (21 %), the health care system quality (8 %) and the lifestyle (50 %). Dobrý (2012) adds that human health is also characterized by positive and negative extremes.

That is why it is necessary to point out the contemporary lifestyle, characterized by the prevalence of so-called "lifestyle" diseases that are comprised in a common term "*chronic non-infectious diseases*". According to Urvayová (2000), Hendl, Dobrý et al. (2011), the sources of these diseases can be found in the environment made by people or they can be caused by their lifestyle (neurosis, stomach ulcer diseases, ischemic heart diseases, metabolic diseases, diabetes, obesity, allergies, dorsalgia and degenerative diseases of the musculoskeletal system) (Kostencka, 2007). All these diseases are connected with hypokinesia and they have a far-reaching impact on human health.

Physical activity is a tool for maintaining physical and mental balance that can result in increased fitness, performance, self-confidence and self-fulfillment and self-confirmation. Despite its physical and mental benefits, we must say that there is a constant decrease in amount of regular daily or weekly physical activity in all age stages (Liba, 2000).

According to specialists (Teplý, 1995; Šimonek, 2011), optimum amount of weekly physical activity (exercise, sports and motoric reactions) can be determined while objective and subjective determinants (table 1) are taken into consideration.

This situation can be resolved by understanding the significance of physical activity and its health benefits by monitoring and subsequent intervention in the early and school age.

Table 1. Recommended capacity and intensity of sports activities in terms of children's health (Šimonek, 2011)

Authors (year)	Country	Recommended amount of physical activity
Ross and Gilbert (1985)	USA	At least 3 times a week for 20 min. at the level of 60 % aerobic capacity, involvement of big muscle groups.
Stephard (1986)	Canada	At least 3 hours a week, 25 min. t level 4 MET on average.
Pyke (1987)	Australia	Frequency 3–4 times a week, at least 30 min., higher load intensity.
Blair et al. (1989)	USA	Minimum energy expenditure during exercise 3 kcal.kg ⁻¹ .day ⁻¹ .
ACSM (1991)	USA	Frequency 3 times a week,, 20 min., minimum intensity or the level 60 % VO ₂ max.
Hatano (1993)	USA	At least 10,000 steps a day (300 – 400 kcal.kg ⁻¹ d ay ⁻¹) as a universal standard for a broad population.
Telama et al. (1994)	Finland	At least 30 minutes of physical activity (PA) a day.
Corbin et al. (1994)	USA	Minimum standard: daily/30 minutes of PA of medium intensity, producing at least 3-4 kcal.kg ⁻¹ .day ⁻¹ .
Sallis and Patric (1994)	USA	Recommendations for children and young people aged from 11 to 21 years: 30 – 60 min of PA/daily or almost daily, complemented by 20 min. of PA of high and medium intensity 3 or more times a week.
Bunc (1996)	the Czech Republic	Minimum weekly energy expenditure while doing PA – 6 to 8 MJ, developing into about 17 MJ/a week.
Pangrazi et al. (1996)	USA	Daily 30-60 minutes of medium intensity PA, high-intensity PA are not directly recommended.
Frömel et al. (1999)	the Czech Republic	Everyday minimum intensity: 30 min. of aerobic exercises: PF= 60 – 85 % from max.
Cooper (1999)	USA	Daily 30 – 60 min of PA, including min. 30 minutes of aerobic activities of high and medium intensity 3 to 4 times a week, stretching exercises 3 times a week and strengthening exercises 2 to 3 times a week.
Frömel et al. (1999)	the Czech Republic	Most days of the week: 11 kcal.kg. a day with boys, 9 kcal.kg a day with girls. Average number of steps: 13,000 with boys, 11,000 steps with girls, daily PA more than 95 min with boys and 85 minutes with girls. Proportion of PA in a weekly energy expenditure should be 25 %.
PCPFS (2001)	USA	To make at least 11,000 steps a day, 5 times a week.
President's Council on Physical Fitness and Sports (2001)	USA	To maintain their health, children are recommended to make 11,000 steps a day, at least 5 days a week.

Strong et al. (2005)	USA	During the day at least 60 minutes of adequate, amusing and various physical activities of medium and higher intensity, with one interval lasting at least 10 minutes.
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Recommended amount of physical activity in a daily routine:

4-6 years 25,0 %

7-11 years 20,8 %

12-14 years 16,6 %

15-18 years 12,5 %

Recommended amount of physical activity children should do daily:

4-6 years 6 hours

7-11 years 5 hours

12-14 years 4 hours

15-18 years 3 hours

Source: (<http://www.zdrava5.sk/zdravy-zivotny-styl/pohybom-ku-zdraviu>)

The benefit or well-being are obtained by an individual as a result of a certain programme's effect (physical activities).

According to Hendl, Dobrý et al. (2011), health benefits of physical activity are demonstrable and obvious in all age categories, regardless of sex:

- increase in high-density lipoprotein,
- high blood pressure decrease (hypertension),
- burning of calories,
- maintaining the blood glucose level,
- increase in bone density,
- boosting of immune system,
- improvement of metabolism,
- increase in efficiency of the body energy systems,
- maintaining the body weight,
- falling asleep faster, better sleep,
- body image enhancement.

The US Department of Health and Human Services (2008) divides physical activities according to their goal into basal, health enhancing and sports activities Hendl, Dobrý et al. (2011).

Basal (basic) physical activity is a new term that replaces the term "common physical activity of everyday life" that has been used so far. It includes activities such as walking, standing, handling objects, which means the activities performed mostly with low intensity.

Health enhancing physical activity is every basal activity and structured physical activity that brings about health benefits under certain circumstances (regularity, intensity, frequency). The term physical activity is often simplified and used in terms of the health enhancing physical activity (Stackeová, 2009).

Sports activities make up a complex of specific physical activities (for more details see Stackeová, 2009, Čechovská, Dobrý, 2010) aimed at improving physical fitness and enhancing physical performance.

Nowadays, the perception of physical activities is different. According to Dobrý (2008a), they used to be seen as activities aimed at enhancing physical fitness, understanding physical activity that reduces the risk of diseases, brings about health benefits and enhances physical fitness.

Physical activity comprises basal, health enhancing and sports physical activities done within a certain time unit (school lessons, time spent outside the school, with the family, a day, a month, an hour, breaks at school, etc.). Physical activities and exercise done regularly within the recommended amount can be defined as permanent physical activities that are regarded as one of the most significant factors of human health at any age (Čechovská, Dobrý, 2010). By contrast, physical inactivity is the opposite of physical activity. It is included in every man's behaviour and it is characterized by a very small amount of basal physical activity and the absence of structured physical activities (Stackeová, 2009). What is more, the consequences of physical inactivity may be connected with certain diseases we have mentioned in the introduction (Dobrý 2008ab).

Physical activity and health benefits are the key to pupils' health.

Physical and sports education presents the educational environment the core of which is an educational process which contains physical activities and is based on integration of intentional teaching and adequate stimulation of the energy system. The main purpose of physical and sports education is to influence pupils' internal motivation and attitudes towards physical activities as well as to encourage them to be physically active throughout their lives. Physical and sports education teachers' primary role is to develop positive environment that can affect pupils' perception of physical activity. That is why physical and sports education should be regarded as an educational institution (environment) with the content consisting of physical activities. It is the only school subject that may have a direct impact on pupils' health, affecting their lifestyle even in adulthood. It is the key factor of enhancing pupils' and teenagers' physical activity and it plays an important role in primary disease prevention. Furthermore, understanding of health-oriented fitness is also of the utmost importance (Bendíková, 2009b).

Health-oriented fitness is defined as fitness that affects one's health condition and prevents health problems related to hypokinesia (Svatoň, Tupý, 1997). Mužík, Krejčí (1997) consider health-oriented fitness as an individual level that is necessary for healthy and active lifestyle.

The level of health-oriented fitness is determined by three basic groups of factors (Bunc, 1996; Svatoň, Tupý, 1997):

1. *Structural* – body composition, weight, height,
2. *Functional*
 - a) cardio-respiratory fitness (aerobic fitness),
 - b) muscle fitness,
 - c) flexibility (muscle and joints mobility),
3. *Body posture in basic positions, the quality of basic movement stereotypes.*

Physical fitness is a result of long-term gradual adaptation to load. This process continues according to physiological laws.

*According to the American College of Sports Medicine, smaller amount and lower intensity of endurance activities that affect the large muscle groups are recommended for health maintenance. Continual aerobic activities lasting 20 to 60 minutes with intensity of 35 to 50 % VO₂max, that are done 3 to 5 times a week, should be sufficient.

This means that physical and sports education focuses less on performance oriented teaching and more on health-oriented lessons aimed at shaping pupils' attitudes and values. The content of this subject is more related to health care and focused on exercise as disease prevention and development of a healthy lifestyle. Active health, which is not just the absence of disease but also an attempt people make to improve it by taking preventive measures, is becoming more and more important. Active health can be achieved also by sensible diet, healthy lifestyle and regular physical activity people do throughout their lifetime (Meško, Komadel et al. 2005).

Nowadays, the concept of pupils' health is based on individualization of young people's development and well-being that both depend on their active life and positive self-assessment. Moreover, health should enable pupils to be engaged in activities that enhance their fitness and spark their interest in exercise (Antala, Labudová, 2008). This should lead to the prevalence of diversified innovative content of physical and sports education lessons (Bendíková, 2009a; Dobay, 2011). As a result, making contemporary educational process more effective requires usage of the past experience, anticipation of future trends and development towards pedagogical innovations.

Main advantages of contemporary physical and sports education (Mužík, 2012):

- health maintenance,
- physical activity enhancement,
- shaping pupil's personality,
- content diversification,
- larger amount,
- better teachers,
- continual education.

Main disadvantages of contemporary physical and sports education (Mužík, 2012):

- insufficient amount of physical and sports education,
- shortcomings in the subject's content,

- insufficient quality of teachers,
- inappropriate pupils' attitude toward physical and sports education,
- inadequate equipment and insufficient material supplies,
- financial costs,
- lack of the government's and the society's interest.

All the disadvantages reflect the current situation. They should encourage experts and teachers to seek the ways how to improve educational process and its output. As far as the school population (and disabled people) are concerned, it is necessary to search for innovative trends (motives for health relaxation, mental well-being and entertainment) to prevent school children and the disabled from losing their interest in sports and exercise due to insufficient diversity and creativity of the physical and sports education content. The number of pupils who avoid exercise is increasing. This may be caused by the fact that compulsory as well as optional physical and sports education is becoming less and less attractive.

We should not forget to mention physical literacy that encompasses basic physical skills, motivation and understanding of how to maintain physical activity at an appropriate individual level throughout one's life Čechovská, Dobrý (2010). Consequently, physical literacy (exercise, knowledge) becomes a clearly specified goal for physical and sports education at school and the significance of physical activities, which bring about health benefits, memorable experiences and continual lifetime physical activity, is becoming more obvious and accepted (Bartík, 2012). Development of physical literacy is becoming the main reason for existence of physical education at school. According to Čechovská, Dobrý (2010), it is implemented in six stages and it can help talented pupils, pupils with health impairment as well as healthy population.

Therefore, physical and sports education teachers should encourage pupils to increase the amount of their regular physical activity and continue including physical activities into their lifestyle. This means teaching pupils to do physical activities of various intensity for about 30 to 60 minutes a day. Furthermore, the teachers should warn pupils of the risks related to physical inactivity, which means changing the way children and teenagers perceive and comprehend the significance of physical and sports education. Hendl, Dobrý et al. (2011) claim that it is necessary to develop and implement intervention programmes focused on increasing the amount of physical activity. One of the effective intervention strategies is the physical and sports education lessons having both organized and non-organized structures. Šimonek (2011) states that it is also important that teachers focus on motivation and interests that could present a kind of stimulation for physical and sports education at schools. Whether this subject is popular or not depends on pupils' success as well as teachers' abilities to spark their interest in it. Bendíková (2009a) adds that popularity of certain physical activities may be increased substantially by non-traditional teaching methods. The school reform implemented in Slovakia in 2008 tried to follow such methods by introducing open teaching of physical and sports education that was focused on changes in the subject content:

- from traditional – to non-traditional,
- from boring – to more interesting, bringing more experiences and health benefits.

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Образ жизни, физическое и спортивное обучение и польза для здоровья

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Аннотация. Цель работы заключается в распространении знаний о пользе физической активности для здоровья учащихся и ее влиянии на развитие новой концепции физического и спортивного воспитания в словацких школах. Указанные теоретические познания являются составной частью гранта: ВЕГА № 1/0376/14 Двигательная деятельность как профилактика здоровья для населения Словакии.

Ключевые слова: бенефиты; физическое воспитание; двигательная деятельность.