

上合组织国家的科学研究:协同和一体化

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# 上合组织国家的科学研究:协同和一体化国际会议

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这些会议文集结合了会议的材料 - 研究论文和科学工作者的论文报告。 它考察了职业化人格的技术和社会学问题。一些文章涉及人格职业化研究问题的理论和方法论方法和原则。

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These Conference Proceedings combine materials of the conference – research papers and thesis reports of scientific workers. They examine technical, juridical and sociological aspects of research issues. Some articles deal with theoretical and methodological approaches and principles of research questions of personality professionalization.

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### 关于健康跑步和步行的好处 ABOUT THE BENEFITS OF WELLNESS RUNNING AND WALKING

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注解。 在本文中,有关休闲跑步和步行的信息被系统化。 列出了跑步和步行对人类健康和延长寿命的积极影响的基本方面。 这些类型的活动相互比较以及其他形式的身体发展的优势是确定的。 因此,已经创造了刺激健康过程中这些有希望的领域发展的先决条件。

关键词:健康跑步、步行、有氧运动、有氧运动、有氧训练、身体状况、抗硬化作用、预防缺血、免疫力、身体防御、情绪状态、体重校正、内啡肽、抗压能力、表现。

Annotation. In this paper, information about recreational running and walking is systematized. The essential aspects of the positive impact of running and walking on human health and prolongation of his life are listed. The advantages of these types of activities in comparison with each other and other forms of physical development are determined. Thus, the prerequisites have been created that stimulate the development of these promising areas of the wellness process.

**Keywords:** wellness running, walking, aerobic exercise, aerobic exercise, aerobic training, physical condition, anti-sclerotic effect, prevention of ischemia, immunity, body defenses, emotional state, weight correction, endorphins, stress resistance, performance.

**Relevance**. Recreational running and walking have gained immense popularity around the world as a means of reducing the risk of cardiovascular diseases and maintaining the physical fitness of the population at the proper level. They have gained incredible popularity in European countries and America as a means to combat physical inactivity and its attendant adverse effects. According to the most conservative estimates, more than 100 million middle-aged and elderly people on our planet use running as a health remedy. No less impressive success and

wellness walking! In the US alone, about 40 million citizens consider themselves ardent fans of this form of health improvement [12]. However, according to scientists, only 20% of the population of developed countries are engaged in sufficiently intensive physical culture, which provides the necessary level of energy consumption [13]. In our country, the situation is no better. A high percentage of cardiovascular morbidity requires the use of immediate measures to promote an active lifestyle. Unfortunately, students are also among those "doomed" to a "sedentary" lifestyle. Their motor activity is especially reduced during the period of passing exams [2].

**Purpose**: To systematize information about the effectiveness of health-improving running and walking as factors in prolonging human life for further popularization of these types of physical exercises among the population, up to turning them into elements of a healthy lifestyle.

Results of the study: The work takes into account significant aspects of the positive impact of health-improving running and walking on human life. The advantages of these types of activity in comparison with other forms of physical development are determined. Thus, outlines are given that stimulate the further development of these areas of the healing process.

#### General characteristics of aerobic exercise

Aerobic exercise is considered the best way to improve health and maintain an active vitality.

During such loads, the general physical condition improves. Improves lung function, blood composition. Such exercises help to reduce the level of cholesterol in the blood. They can be used to achieve an anti-sclerotic effect, to prevent ischemia. Joints, tendons become more flexible, ligaments and the skeletal system are strengthened. Muscles are strengthened, muscle mass is increased. Improves blood circulation, which has a beneficial effect on the condition of the skin. Growth hormone is produced. Immunity is strengthened, the body's defenses grow. The content of fat in the body decreases, weight is corrected. The emotional state improves due to the production of "hormones of good mood" - endorphins. Increased resistance to physical and emotional stress. Mental activity is activated. Efficiency increases. Chronic fatigue is gone.

Aerobic activities include running, walking, cycling, skiing, swimming, rhythmic gymnastics (aerobics), dancing, etc., i.e., loads in which most of the muscles of the human body are involved in work, approximately 2/3 of the entire muscle mass, and the duration of continuous exercise is at least 20 minutes.

## The most unpretentious of them are running and walking.

Health-improving running (jogging), which has gained immense popularity all over the world as a means of reducing the risk of cardiovascular diseases, maintaining a proper level of physical fitness, is one of the topics of methodological and practical classes in physical education [4].

#### Medical and biological aspects of recreational running

For recreational purposes, slow running is mainly used in the speed range from 1.5 to 4 m/s, i.e. 1 km is run in (4 min. 10 sec - 11 min.). The main goal of jogging is to improve the physical condition of a person and, consequently, increase his working capacity. At the heart of the physical performance of a person is the ability of the body to better use oxygen.

Jogging speeds up blood flow and increases blood pressure. This forced increase in pressure can help flush out some of the fats and waste products from the arteries and throughout the body. Similarly, if exercise is intense, the body uses cholesterol as an additional source of energy.

Running, since it affects most muscle groups to some extent, leads to the expansion of the arterial system. The veins, arteries, and capillaries that have essentially ceased to function due to an inactive lifestyle open up and become «active» as well. The presence of a large number of vessels for blood flow makes it freer.

In addition to the main health effects of running associated with the impact on the circulatory and respiratory systems, it should also be noted its positive effect on carbohydrate metabolism, liver and gastrointestinal tract function, and the skeletal system.

The improvement in liver function is explained by an increase in oxygen consumption by the liver tissue during running by 2-3 times. In addition, with deep breathing while running, the liver is massaged with a diaphragm, which improves the outflow of bile and the function of the bile ducts, normalizing their tone.

Regular training in health running has a positive effect on all parts of the musculoskeletal system, preventing the development of degenerative changes associated with age and physical inactivity (decreased mobility). Restriction of the inflow of joint fluid during hypodynamia leads to malnutrition of the cartilage and loss of elasticity of the ligaments, a decrease in the depreciation properties of the joints and the development of arthrosis. Cyclic exercises (running, cycling, swimming) increase the flow of fluid to the articular cartilage and intervertebral discs, which is the best prevention of arthrosis and sciatica.

Running has a great influence on the psycho-emotional state of a person. While running, there is often a feeling of joy, fun, which for many runners is the main motivation for running. After a workout, as a rule, a good mood, self-confidence, a surge of vigor, and an increase in mental performance appear. This condition is associated with the release of endorphins, which circulate in the blood for about a day.

## Benefits of running over other types of aerobic exercise

Health running is the simplest and most accessible (technically) type of cyclic exercises (they include running, walking, swimming, etc.), and therefore the most massive. According to the most conservative estimates, more than 100 million middle-aged and elderly people on our planet use running as a health remedy.

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This is perhaps the easiest, fastest and cheapest way to get in shape. You can run «solo» and with a partner, for this you do not need to have special simulators and do not need to spend too much time. Three or four times a week for 20-30 minutes is enough to feel great. You can run at any time of the day. Running attracts the attention of people of all ages due to a number of its features [10]:

- is a natural locomotor act:
- the load in running is easily and accurately dosed according to the state of health or according to the pulse rate;
- shown to persons of different ages and gender;
- Available at any time of the year;
- does not require special conditions and devices for classes;
- With the help of a long, calm run, a tangible healing effect is quickly achieved.

The advantage of running lies in the fact that the training regimen can be chosen for almost any person.

Depending on your goals, you can run both in the morning and in the evening. Morning running is the best option for awakening the entire body (from skeletal muscles to the logical mind), this is the best way to stimulate the digestive system for breakfast (note to those who suffer from lack of appetite in the morning).

Evening running is the best way to get rid of the stress of a working day, relax, recharge your batteries. For many people, this can be a convenient way to get rid of evening gluttony and get a healthy and sound sleep at the same time.

The most simple, financially inexpensive and accessible to every means is recreational walking [7].

Walking has gained incredible popularity in European countries and America as a means to combat physical inactivity and its attendant detrimental consequences. A health trail project has been developed, the goal of which is to involve the largest possible part of the population in walking. Finland, Sweden, Denmark, Canada and Germany have already joined this project. In Germany, mass walks are organized on certain days, in which thousands of people participate. All the advantages of walking listed below seem to explain the boom observed in the world today and associated with it. For example, about 40 million Americans consider themselves ardent fans of this form of recovery.

Health walking is the simplest and most accessible form of aerobic exercise.

Walking is the safest form of physical activity. It works for almost everyone. Wellness walking is the simplest and most affordable way to improve your health and maintain an active lifestyle for many years.

Walking is a great way to improve your health, especially if you are just starting to get involved in sports. Regular walking will help you establish a healthy weight and burn excess fat. In one hour of brisk walking, 35 g of fat is burned [11].

The body and knees are slightly stressed when walking, so walking is suitable for everyone without exception.

One recent study indicates that walking 3 km a day at any step will reduce the risk of cardiovascular disease. (Although it is traditionally believed that we should walk 7-8 km per day and take 10 thousand steps - the minimum rate prescribed by doctors [11].) Moderate walking will lower blood cholesterol levels, help strengthen bones, and protect against osteoporosis. It's also a great way to «let off steam» or overflowing energy. Rhythmically repetitive movements calm and even stimulate creative activity.

Its healing effect is quite high. Walking, in terms of its physiological effect on the body, is one of the effective aerobic cyclic exercises and can be used both to increase the volume of motor activity and to correct risk factors for the development of cardiovascular diseases, as well as to improve the function of breathing and blood circulation, musculoskeletal motor apparatus, metabolism in people over 50 years of age and with a low level of health. The large muscles involved in walking play the role of a "peripheral heart", improving blood flow from the lower extremities, abdominal organs and pelvis. Walking has a stimulating effect on the function of the digestive glands, liver, and gastrointestinal tract. At the same time, the natural foot massage that occurs while walking also plays a role. Like other cyclic exercises, walking causes a favorable restructuring of nervous processes, improves the activity of analyzers, increases the emotional state, and normalizes sleep [10].

Walking in any weather contributes to the hardening of the body, which affects the increase in the body's resistance, the growth of its adaptive capabilities.

As the practice of physical culture and health-improving classes shows, walking and running are effective in the fight against smoking. Among those engaged in these types of physical activities, the number of people who quit smoking is significantly higher compared to the average data. The motive for quitting smoking is associated with a decrease in the need for smoking [10].

When walking at a sufficiently high pace on a relief terrain, the whole body shakes, as a result of which there is an increase in blood flow, an increase in vascular tone, and an outflow of venous blood from the lower extremities occurs.

Walking has no contraindications, it can be a means to restore former harmony or be used as a therapy after illnesses, walking also helps to develop endurance, improve physical fitness, prevent various sores and the ability to remain active for many years.

It will help to easily compensate for the lack of physical activity and solve many other problems associated with the modern lifestyle.

It is desirable that the classes are daily. Let them be less than an hour on week-days doing a supportive task. And on weekends, the training will be more intense and longer [3].

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The author of the brochure «Healthy Walking» I. A. Gais offers a long-term program of health walking classes, dividing it into 3 stages: a preparatory (duration 2-3 months) stage, a stage of increasing walking speed, and, finally, a stage of further improving walking techniques and maintaining necessary for this physical form [3].

#### Benefits of walking over running

- 1. Availability. For jogging, you need to use paths with soft ground to protect your legs from bruises and injuries, especially if you are overweight [5]. But where in the city to find such a place for everyone who decides to run?
- 2. Atraumatic. When walking, unlike running, there is no phase of flight and, accordingly, moments of landing, which are the cause of injuries when running [5]. Softly, rolling from phase to phase of movement without flight, the pedestrian moves forward. Of course, legs can also hurt from prolonged walking, but such pain is most often not traumatic in nature, and it does not become an insurmountable obstacle to regular exercise.
- 3. Convenient time for classes. A business person constantly feels that strong nervous tension after a working day with insufficient physical activity (lack of exercise) creates a serious danger to his health, but he can't carve out at least an hour for himself to compensate for the motor deficit. Walking, on the other hand, allows part of physical activity to be included in the working day: walking to work and back, walking at lunchtime, overcoming short distances at a fast pace during the day. True, it should be warned that such loads practiced during the day, even with a 30-40-minute walk (in parts or small segments), are completely unequal to those under which, as N. M. Amosov says, you can suffocate and sweat [1].
- 4. Ability to overcome conventions. A running person attracts attention a fast walking person is just in a hurry somewhere [5].
- 5. Ability to adjust the load. Very often, beginners in fitness jogging harm themselves with excessive exercise. No wonder the New Zealand coach Arthur Lydiard in his book "Running for Life" writes that the most difficult thing in recreational running is "...learning to maintain a low running speed" [4]. It can be compared that the load when running is boiling water, and when walking fresh milk. The fact is that fast walking skills are gradually formed from the very beginning of classes, and by the time you learn to develop a sufficiently high speed, you will have many kilometers of the road to health behind you. It is they who create the ability to gradually and with the benefit of the body to withstand ever greater loads. When walking, as it were, the very form of movements is a load limiter at the beginning of classes.
- 6. Possibility of continuous loading. This factor determines the effectiveness of training the cardiovascular system. How much can an unprepared person run in continuous mode? Make no mistake, even 5-7 minutes of continuous running is

not an easy task, and 30 or more minutes of continuous movement is imperative to achieve and maintain good shape. Often, beginners pretend to run rather than run, barely dragging their feet. The sight is rather unaesthetic. It is much easier to compensate for the necessary long-term load by walking. In addition, this uses a natural and most natural skill for a person.

- 7. Ability to combine mental activity and walking. Many creative workers have noted that walking enlivens the activity of the mind. This was written by Jean-Jacques Rousseau, L. N. Tolstoy, A. S. Pushkin, who walked the distance from Tsarskoye Selo to St. Petersburg (about 18 km). Walking is a highly automated skill. On the usual track, the brain has the opportunity to be distracted for productive work [5].
- 8. If running is prohibited for heart disease, some forms of diabetes, kidney disease, in which body shaking should not be allowed, then the doctor may allow walking, since it is easy to regulate the load here. So from September 2016 to March 2017, an experiment was conducted at the Nizhny Novgorod State Engineering and Economic University (Knyaginino) on the use of health-improving walking in physical education classes in a special medical group. Among the students were suffering, including chronic pyelonephritis. The experiment showed that recreational walking improved their functional state and somatic health [9]. The same conclusion was reached by the teachers of the Omsk Law Institute, who spent several years monitoring students of a special medical group involved in recreational walking. At the same time, teachers especially noted the desire of students to "repeat walks, turn them into a pattern" and concluded that they had a need for movement for many years with the help of health-improving walking [8].

#### Conclusions

- 1. Healthy running and walking today have become one of the most popular health methods in the world.
- 2. Moreover, walking is the most accessible type of aerobic training, surpassing even running in terms of simplicity and indications.
- 3. However, walking as an independent health remedy can be recommended only if there are contraindications to running (in the early stages of rehabilitation after serious illnesses, with overweight, in elderly people with a low level of physical fitness).
- 4. In the absence of serious deviations in the state of health, walking can only be used as the first (preparatory) stage of endurance training for beginners with low functionality. In the future, as fitness increases, health-improving walking should be replaced by running training.
  - 5. Running is the most effective means of combating physical inactivity.
- 6. The optimal form of an active lifestyle: sports games and long country trips on weekends, running in the morning and (and) in the evening with brisk walking during the day on weekdays.

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Further research involves conducting experimental studies to obtain data in order to ensure a higher quality of methodological training of future physical education teachers.

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