



CARDIO TYUMEN  
2023

XIII МЕЖДУНАРОДНЫЙ КОНГРЕСС  
«КАРДИОЛОГИЯ  
НА ПЕРЕКРЕСТКЕ НАУК»

# СБОРНИК ТЕЗИСОВ



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РОССИЙСКОЕ ОТДЕЛЕНИЕ  
МЕЖДУНАРОДНОГО ОБЩЕСТВА  
ПО СЕРДЕЧНО-СОСУДИСТОМУ  
УЛЬТРАЗВУКУ



МИНИСТЕРСТВО НАУКИ  
И ВЫСШЕГО ОБРАЗОВАНИЯ  
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# **СБОРНИК ТЕЗИСОВ**

## **XIII МЕЖДУНАРОДНОГО КОНГРЕССА «КАРДИОЛОГИЯ НА ПЕРЕКРЕСТКЕ НАУК»**

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# THE ROLE OF PHYSICAL EXERCISES IN THE PREVENTION OF CARDIOVASCULAR DISEASES

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Cardiovascular diseases remain the most serious public health problem in many countries of the world, including Uzbekistan. Experts of the World Health Organization (WHO) forecast further growth of CVDs, as well as mortality from them in both developed and developing countries. This is due to changes in demographic indicators (population aging), the growth of non-communicable diseases (NCDs) and lifestyle features. [1].

Accordingly, the impact of CVDs on the level of health of the entire world population makes the entire scientific community today look for and find new ways to solve this problem. According to statistics from the National Heart, Lung and Blood Institute, nearly 815,000 Americans die of CVDs and 250,000 die of strokes every year. By the estimates of the American Heart Association, \$420 billion is spent annually from the U.S. economy to treat these diseases. In Europe, more than 4.3 million deaths (48% of all deaths) and more than 2.0 million deaths are due to circulatory system diseases (CSDs), which are reported in 27 European Union countries (42%). That's more than 800,000 people over the age of 63 who die of CVDs each year, including about 230,000 of them in developed European countries. Every fifth European dies as a result of CVD, 15% of women and 16% of men die annually [1,2].

Analysis shows that 53% of deaths among the population of Uzbekistan aged 30-70 years are related to CVD. Over the past five years, the incidence of these diseases even among young people has increased by 20%. In general, these diseases are diagnosed in about 4 million people, which is 12% of the total population.

The main direction in preventing the development of diseases and complications of cardiovascular diseases is the timely detection and correction of risk factors (FR). The significance of known FRs, such as family history, age, male gender, smoking, excessive body weight, dyslipidemia, arterial hypertension

(AH), type 2 diabetes mellitus (DM) is well-proven, but even in the absence of these factors, acute myocardial infarction (AMI) and angina pectoris can occur. Therefore, to improve the prediction of CHD incidence and determine the indications for active primary prevention, it is necessary to study additional criteria that allow a more accurate assessment of the individual risk of a patient. Reduced physical activity (PA) of the population is considered as one of the FR of CVD occurrence. According to the WHO definition, FA is any body movement made by the skeletal muscles, which requires energy expenditure. The term refers to any type of movement, including activity while resting, traveling to and from any place, or while working. Both moderate and vigorous physical activity contributes to better health. FA provides significant benefits for the health of the heart, brain, and entire human body. Physical activity contributes to the prevention and treatment of coronary heart disease (CHD) and arterial hypertension (AH) [2].

One in four adults worldwide is not physically active at the internationally recommended levels. Up to 5 million deaths per year could be prevented if the world population were more physically active. People who are not physically active have a 20% to 30% higher risk of mortality compared to those who spend enough time being physically active.

Studies in the UK, USA, India, Brazil and China (45% of the world's population) have shown that FA levels in these countries have declined and will continue to decline over the next 15 years. It caused 12.2% of cases of acute myocardial infarction (MI). In Russia, this level has also decreased. The data from more than 40 observational studies prove the linear relationship between FA level and general mortality in young and elderly people [3].

English cardiologists concluded that people who do physical labor are less likely to develop coronary disease in middle age. If they do have it, it occurs in a milder form and develops later

than in people whose occupation is not related to physical work. The incidence of coronary heart disease among London letter carriers who deliver mail on foot or by bicycle is 25% lower than among other postal and telegraph workers who sit in offices while working. The incidence of coronary disease among London bus drivers is twice as high as among conductors. The latter in the course of their work are forced to continuously walk around the car, going down from the second floor to the first floor and up again to the second floor (London double-decker buses) in order to supply passengers with tickets [4].

Active physical activity helps to reduce cholesterolemia,  $\beta$ -lipoproteinemia in patients with atherosclerosis, which has a certain importance in slowing down the atherosclerotic process. Clinical and pathological anatomical materials testify to a relatively milder course of atherosclerosis in persons engaged in physical labor [5].

American scientist W. Raab came to the conclusion that it is absence of physical activity that contributes to the development of atherosclerosis. He suggested the term «heart of an active idler» to characterize the heart of a person leading a very sedentary lifestyle in the conditions of modern civilization. Raab stresses that the lack of physical activity is a threat to civilization. It is not the heart of the athlete that should be considered abnormal, but the degenerating inferior «heart of the slacker». [6].

A study of the lives of 424 former Harvard University students who were members of soccer teams found that those who stopped playing soccer, but exercised moderately, had almost no coronary disease. None of the individuals who continued to engage in muscularly demanding exercise had coronary disease.

In experimental studies on white rats, it was found that prior systematic physical training of animals, improves the outcome of acute coronary artery disease. The above data leave no doubt that one of the significant reasons for the dramatic increase in cardiovascular disease in modern man is the devastating effect of physical activity restriction. Does this mean that we should recommend everyone and everyone to immediately engage in strenuous physical activity? Is exercise a panacea? Certainly not! It must be used judiciously and in moderation [7].

Extreme physical strain over a number

of days dramatically worsens the course of coronary insufficiency. For example, animals in experimental reproduction of coronary artery atherosclerosis were subjected to abrupt physical exercise (running in a treadmill). All rabbits immediately developed severe phenomena accompanied by dyspnea, palpitations, and signs of acute coronary failure: three quarters of the rabbits died in 6-14 days, and the rest - in 21-30 days after the beginning of the experiment. All animals were found to have extensive infarcts of the left ventricle of the heart. Sharp physical overload against the background of atherosclerosis turned out to be a factor provoking the occurrence of severe cardiac muscle lesions. In these conditions, additional load on the heart, leading to its increased work, causes the most severe lesions of the heart muscle [8].

How to increase physical activity? To increase levels of physical activity, countries and communities need to take steps to provide more opportunities for everyone to be active. This requires a collective effort to implement policies and solutions, at both national and local levels, across sectors and disciplines, that are sensitive to national cultural and social contexts and that aim to promote, stimulate and encourage physical activity.

Policy measures to increase FA levels include:

- Providing opportunities for the entire population to walk, ride bicycles, and use various types of active non-motorized transportation, and ensuring general safety;
- Implementing work and employment policies that encourage commuting by active transportation and taking advantage of opportunities to increase physical activity during the workday;
- Creating comfortable and safe playgrounds and facilities in kindergartens, schools and institutions of higher education where children, pupils and students can actively spend their free time;
- Providing primary and secondary schools with quality physical education that helps children develop behaviour patterns that will keep them physically active for life;
- To provide opportunities for people of all ages and levels of physical ability to participate in community and school sports programs;
- Providing sports and recreational facilities where everyone can participate in a variety of

sports, dance, physical exercise and recreational activities;

- Provision of counseling and support by health care providers to patients to ensure their regular FA [3].

Taking into account such measures in our country in order to further develop and turn physical culture and sport into mass movement, to identify and stimulate physical abilities of population, to prevent bad habits and various diseases, to form skills of healthy lifestyle, as well as to ensure implementation of State program on implementation of Strategy of actions on five priority directions of the Republic of Uzbekistan in «Year of youth support and health promotion» the Decree was adopted. In particular, it states that, as of 1 August 2021, a system for assessing the level of physical fitness of the population will be introduced, the main aims of which will be to increase physical fitness and physical activity, prevent bad habits and various diseases, and promote healthy living skills and physical fitness by popularizing physical culture and sport among all segments of the population; to strengthen and develop qualities in young people such as strength of will, confidence in their own strength and capabilities and patriotism; and to encourage the development of the public.

It is clear from what has been said, what are the reasons for the danger which the development of civilization poses to the cardiovascular system of modern man. To a large extent, this danger is

associated with hypodynamia. Therefore, each of us should strive to compensate for the lack of FA by systematic and intensive training of our own muscles.

#### Literature

1. Global atlas on cardiovascular disease prevention and control. – Geneva: World Health Organization, 2011. – 212 p

2. <https://www.who.int/ru/news-room/fact-sheets/detail/physical-activity>

3. [https://www.who.int/ru/news-room/fact-sheets/detail/cardiovascular-diseases-\(cvds\)](https://www.who.int/ru/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds))

4. Амосов Н. М., Бендет Я. А. Физическая активность и сердце. Киев : Здоровья, 1989. 230 с.

5. Бойцов С. А. Механизмы снижения смертности от ишемической болезни сердца в разных странах мира //Профилактическая медицина. – 2013. – №16(5). – С. 9-19.

6. Баевский Р. М. Прогнозирование состояний на грани нормы и патологии. М. : Медицина, 1979. 298 с.

7. Eriksen C. U., Rotar O., Toft U., Jorgensen T. What is the effectiveness of systematic population-level screening programmes for reducing the burden of cardiovascular diseases? – Copenhagen: WHO Regional Office for Europe. – 2021. – 107 p.

8. Калинина А. М., Чазова Л. В., Павлова Л. И. Влияние многофакторной профилактики ишемической болезни сердца на прогноз жизни // Кардиология, 2009, с-245.

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