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PREVENTION AND INFLUENCE OF ADVERSE RISK FACTORS FOR CARDIOVASCULAR DISEASES

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Abstract
Cardiovascular disease (CVD) is the leading cause of death worldwide, and people with or at high risk of CVD require early detection and care. Most cardiovascular diseases can be prevented by addressing risk factors such as unhealthy diet and obesity, physical inactivity, tobacco use, physical inactivity and harmful use of alcohol through population-based strategies.

Keywords: Cardiovascular morbidity, risk factors, coronary heart disease, primary health care, prevention.

Introduction

The morbidity of the population of the cardiovascular system is one of the most significant problems. For many years they have been the leading cause of death in many economically developed countries. Among cardiovascular diseases, the most common are coronary heart disease (CHD), hypertension (HTN), and vascular lesions of the brain. Cardiovascular morbidity (CVD) is characterized by high mortality. Among the causes of mortality, it ranks 1st worldwide (52–55% of all deaths): IHD is 120–130 cases, hypertension is 50–65 per 1000 population. In total, in economically developed countries, CVD averages 230–250 per 1000 population, affecting every 4 people [1]. This pathology is characterized by its high prevalence, incidence of complications, high level of disability and mortality among working-age society. As a result, financial losses associated with heart and vascular diseases continue to increase, as well as the costs of providing various types of medical care. The main risk factors for cardiovascular disease are poor diet, lack of physical activity, tobacco and alcohol use. An important phenomenon that is causing concern to the medical community is not only the continuing upward trend in incidence, but also the spread among a population that was previously less susceptible to the development of this pathology. This circumstance dictates the need to take into account CVD risk factors [2]. According to WHO experts, negative dynamics of population health indicators have been recorded even in countries with a high standard of living: there is an increase in oncological and endocrine pathologies, and an increase in the prevalence of diseases of the cardiovascular system. An even higher increase in pathologies of these systems is observed in the population living in environmentally unfavorable regions [2].

Of particular importance is the cardiovascular system, which, along with the delivery and transfer of various substances, is one of the first to respond to changing conditions [3]. Human health is

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determined by a basic triad, including: hereditary factors, quality of life factors, and environmental factors. Among cardiovascular diseases, hypertension, angina pectoris, myocardial infarction, stroke, and cardiac arrhythmias have the greatest clinical significance in terms of prevalence, impact on health, life expectancy and working ability of the population. These diseases develop gradually, due to the influence of certain factors on the human body. As a result, the concept is identified - risk factors, features of human life that contribute to the development, progression and manifestation of the disease [4].

Purpose: The purpose of the study is to determine the main risk factors influencing the development of CVD and to develop evidence-based preventive measures taking into account the prevalence of CVD. to determine early diagnosis and prevention of cardiovascular diseases, at the level of primary health care and to study the incidence of cardiovascular diseases. Determine the main directions in the prevention of cardiovascular diseases: the organization of periodic medical examinations by primary medical institutions and widespread promotion of a healthy lifestyle, providing the needy segments of the population with the necessary medicines free of charge; development of professional skills and increasing the potential of primary care specialists, development of science in the field. Conducting a targeted screening examination of the population over the age of 40 years through family clinics and medical teams at least once a year, assessing the health profile (diet pattern, tobacco addiction, body weight index, blood pressure, blood sugar and cholesterol levels, and others) of the population aged 18 to 40 years - once a year [5]. Primary health care institutions play a leading role in disease prevention among the population. The main direction of the strategy of prevention programs is to carry out activities through intersectoral cooperation: rational organization of work, appropriate nutrition, prevention and correction of psychological stress, increasing physical activity, combating alcoholism, smoking and drug addiction, early detection of chronic diseases and their timely and adequate treatment. The population is an independent link in prevention, acting simultaneously as both an object and a subject of prevention. This approach is based on assessing the influence of lifestyle factors on the development of diseases [5,6]. The level of education in matters of health and healthy lifestyle of the population is a prerequisite for the perception of preventive intervention and participation in it. This is confirmed by studies conducted in Moscow, St. Petersburg, Elektrostal, and Chelyabinsk.

Analysis of the data obtained revealed that only half of the respondents had ever received information about health. Only 7% of the population attended lectures on health issues at least once a year, while 8% read brochures and leaflets on health weekly and 17% read them monthly [6]. The primary health care system should meet up to 90% of the total need for diagnostic, preventive and curative care. To monitor healthy and practically healthy people, special prevention rooms were created in clinics, areas were subdivided, and additional retraining of medical personnel was carried out. Secondary and tertiary prevention involves timely detection of diseases and pre-diseases, a complete and high-quality examination of the patient, and adequate management tactics in order to reduce the risk of progression of the patient's existing disease and (or) the emergence of a new pathological process. All this is the essence of prevention, which is based on dynamic medical supervision of the population. The detection rate of deviations in the

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state of health and diseases during preventive examinations averaged from 0.5 to 1.5%; diseases were mainly detected when the patient went to the clinic with complaints. An important area of CVD prevention is the fight against bad habits [6]. In primary prevention, the doctor most often has to deal with patients who have no complaints about their health, who have certain risk factors that require medical intervention, and when communicating with whom there are fundamental differences from communicating with sick people. Particular attention should be paid to persons with a hereditary predisposition to various diseases, especially those who have a risk factor. The WHO Expert Committee has formulated the most important risk factors for the development of CVD: Dyslipidemia (increased cholesterol levels and especially LDL cholesterol, low HDL cholesterol levels, elevated triglyceride levels), arterial hypertension, hyperglycemia and diabetes mellitus, obesity, low physical activity, hereditary predisposition. In addition, it is necessary to take into account priority groups for the prevention of cardiovascular diseases in clinical practice: patients with atherosclerosis of the coronary, peripheral and cerebral vessels. High-risk patients with: multiple risk factors that determine the probability of death from cardiovascular diseases ≥5% within 10 years, diabetes mellitus type I and II with microalbuminuria. Close relatives of patients with early cardiovascular diseases [7].

Materials and methods of the study: The study was carried out by parallel, independent recruitment of the main group and the comparison group and comparison of the results obtained. Main group: 59 patients with the most important risk factors for the development of CVD. Women predominated (66%). Comparison group: 52 patients. Priority groups for the prevention of cardiovascular diseases with CVD. This group was also dominated by women (69%). Initially, all patients underwent a physical examination with measurement of anthropometric parameters, body mass index was determined, and the functional functioning of the heart was also examined using an ECG. A traditional clinical examination of patients was carried out, including collection of complaints, medical history, examination of the patient, and measurement of blood pressure (BP). Thus, the criterion for including patients in the main group was the presence of: a course of CVD without clinical manifestations. The main risk factors for cardiovascular disease are poor diet, lack of physical activity, tobacco and alcohol use. An important phenomenon that is causing concern to the medical community is not only the continuing upward trend in incidence, but also the spread among a population that was previously less susceptible to the development of this pathology. This circumstance dictates the need to take into account CVD risk factors characteristic of young age [7]. Thus, the relevance of the problem of CVD prevention in modern society remains significant from a medical and social point of view. Particular attention should be paid to early diagnosis, identification of the main risk factors, organizational measures for prevention, adequate treatment and reduction of mortality from heart disease. [2,6].

Results:

According to the study results, the median age of patients was: 36.4 (25.9; 49.1) years. At the time of the examination, there were no clinical data for exacerbation of CVD. However, complete control of the disease was recorded in only 15 patients (24%). In 14 patients (24%) CVD was of mild severity; all patients had previously been diagnosed with hypertension on an outpatient basis,

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which in 18 (24%) cases was grade I. In the comparison group, the average age of patients was 43.6 [35.0-52.3] years. Behavioral (modifiable) factors age, gender, heredity genetic factors early development of CVD in relatives, obesity, eating habits, smoking, physical activity, alcohol consumption, exposure to stress. The presence of even one of the risk factors increases the mortality rate of men aged 50-69 years by 3.5 times, and the combined effect of several factors by 5-7 times. A complete analysis of information was carried out, taking into account age characteristics, gender, and social status. Thus, the groups were comparable to each other in terms of gender and age. Research results have shown that the most significant or major risk factors are hypercholesterolemia, arterial hypertension and smoking. The combination of the above factors together increases the likelihood of developing heart disease by 3-10 times. There are also a number of other factors, the influence of which on the development of cardiovascular complications is less clear. These include hereditary predisposition to the disease, excess weight, physical inactivity, psycho-emotional stress, diabetes mellitus and other factors. As a result, daily tasks include not only the effective treatment of patients with pre-existing pathology, ensuring the prevention of serious complications, but also the early identification of healthy patients with one or more risk factors and the planning of preventive measures aimed at eliminating them [2,7,9].

Conclusions:

To influence CVD risk factors, it is necessary to motivate each individual to form a healthy lifestyle. Early detection of abnormalities in the functioning of the cardiovascular system, when there is no source of risk yet, seems to be the most promising, and the opportunity in adolescence, limited by non-drug methods of influence, is attractive. For this purpose, it is necessary to organize and conduct control diagnostics, both among the student audience and among the working population, which is an effective preventive measure for patients, taking into account the prevalence of harmful factors in modern socio-economic conditions [4,7]. The carbohydrate composition of the diet is of great importance in the prevention of CVD in the organization of rational nutrition. In particular, limiting the consumption of mono and disaccharides. It is known that consuming 2 servings of sugar-sweetened beverages daily (compared to 1 serving per month), even after controlling for other lifestyle and dietary factors, was associated with a 35% increased risk of CHD in women [9]. Consumption of sugar-containing beverages is associated with weight gain because they do not induce satiety and their intake is not limited [8,9]. The World Health Organization recommends getting no more than 10% of calories from mono and disaccharides, including added sugars and sugars found in fruits and fruit juices [4]. The consumption of dietary fiber (DF) is of great importance in organizing a balanced diet. According to meta-analyses of prospective cohort studies, higher fiber intake of just 7 g/day is associated with a 9% reduction in the risk of CHD [7,9]. About half of the cases of early development of CVD can be prevented precisely by preventive measures for risk factors [4]. In this regard, priority is given not only to the development of preventive programs and the search for the most adequate ways in primary health care and methods of protecting the health of young people, but also the formation of health monitoring, its information support, as well as criteria for the effectiveness of programs aimed at developing self-protective behavior of the youth audience, as the basis of the global preventive space (5,8,9). Active and widespread implementation of prevention reduces the risk of recurrent

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cardiovascular complications (CVC). Traditional outpatient follow-up programs for post-CVD patients do not adequately monitor key risk factors, partly due to low patient engagement [8,9]. The development of an algorithm for CVD preventive actions includes the definition of a set of measures aimed at a specific patient population observed over a certain period of time. Therefore, the guidelines are intended for any clinician or health care professional working with adult patients (≥18 years) at risk for CVD. Maintaining a healthy lifestyle after undergoing a specialized prevention program is problematic for many patients. A tailored prevention program or counseling should take a patient-centered approach, focus on the patient's priorities and goals, and embed change within the context of the patient's life.

In this case, changes that are personally valuable to the patient are more likely to be maintained. The patient may need long-term support as lifestyle changes occur, and personal health programs may be helpful. First of all, conversations between doctors and nurses with healthy people, especially with members of families where there are people with diabetes, it is recommended to combat physical inactivity, overeating, a balanced diet, moderate physical activity, control body weight, give up bad habits, and regular exercise (static types of physical activity are not recommended - lifting barbells, dumbbells, etc.), alcohol consumption should be limited. Thus, summing up the above, we can conclude that throughout the world the problem of cardiovascular pathology is very acute, since CVDs are the leading cause of death. When carrying out timely clinical examination of the population, the general condition of the body is assessed, and recommendations are given on maintaining a healthy lifestyle, following a diet, and prescribing medications to prevent the development of complications of existing diseases. Only a complete examination of apparently asymptomatic patients and timely prevention of the development of complications will keep the nation healthy and will significantly reduce the level of morbidity and mortality from CVDs.

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