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Prevention of Cardiovascular Diseases in Patients of Certain Risk Groups

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ABSTRACT

The article is devoted to the consideration of issues related to the organization of prevention of cardiovascular diseases in patients of certain risk groups. According to the researcher, these are preventive measures with their competent implementation that can reduce the risk of morbidity, and also increase the survival of certain groups of patients, especially those suffering from concomitant diseases. Measures in this area should include timely diagnosis of the health status of such patients with their attribution to a certain risk group, as well as the development of an individual plan for drug therapy, diet and physical activity, which should take into account the specifics of the patient's health. All of the above will contribute to reducing the morbidity of the population with the disease in question and increasing the survival rate of patients suffering from concomitant diseases, since preventive measures will reduce the burden on the cardiovascular system.

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INTRODUCTION

Prevention of cardiovascular diseases is the most important task of medical specialists, accordingly, training and education in this field should, like all other areas of medical activity, be under the close attention of people developing medical programs and algorithms.1 Especially important in this regard is the organization of preventive measures with patients at risk who suffer from various concomitant diseases. The organization of preventive measures with these patients should include reliance on knowledge about the course of their major ailments, the peculiarities of their development and therapeutic therapy in order to develop and implement the necessary recommendations for such patients in the field of reducing the risk of developing cardiovascular ailments.

The dynamics of mortality rates from cardiovascular diseases has recently been adjusted in a negative way, however, the risk of death of patients who develop this pathology is still quite high, and not the least role in this is played by concomitant diseases of various genesis, which today are diagnosed both in the age population and in young patients' age. Accordingly, the importance of primary and secondary prevention of cardiovascular diseases is beyond doubt, and this factor should be taken into account by representatives of practical medicine working in various fields.[1] The aim of the study is to consider the features of prevention of cardiovascular diseases in patients of certain risk groups.

MATERIALS AND METHODS

When writing the work, various domestic and foreign sources were investigated in the field of developing measures to prevent the development of cardiovascular diseases in patients of various risk groups through the use of comparative and analytical research methods.

RESULTS

The decrease in mortality from cardiovascular diseases in the last thirty years has been noted by individual specialists, but the dynamics of this process is still not sufficient. The main factors reducing

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the above-mentioned risk are the refusal of smoking, the appeal of patients to a healthy lifestyle, the development of innovative medicines. All this makes it possible to reduce the number of deaths that occur due to the development of cardiovascular diseases in patients.[3]

However, all the above measures of primary prevention of cardiovascular diseases do not always lead to the fact that their growth tends to decrease. To date, patients suffering from obesity or diabetes are still the main risk group susceptible to the development of the above-mentioned disease. More and more often, experts come to the conclusion that these are preventive measures in the field and prevention of cardiovascular diseases that are the main method of preventing their development in the future.[4]

Statistics show that the majority of patients with a high risk of developing cardiovascular diseases are not in the focus of attention of medical specialists, and the treatment they receive is often not optimal.[5] A negative factor in this direction is self-medication, which very often leads to negative results. For this reason, it is medical specialists who should lead the work on the prevention of cardiovascular diseases, introduce educational work among the population, explaining to patients who are currently healthy and suffering from various diseases the need for preventive measures in the field of preventing diseases of the cardiovascular system.

Preventive cardiology, which is currently a rather narrow specialty, is given only little attention, which negatively affects the implementation of its main aspects in the work of clinicians. Insufficient attention is also paid to the work on the prevention of cardiovascular diseases in medical higher and secondary educational institutions, as well as in the process of organizing additional training of specialists. Experts do not always consider it necessary to put this work in the foreground, which often leads to an increase in this group of diseases and the application of a large amount of effort to the treatment of these ailments.

According to experts, recently a significant number of efforts has been made to develop preventive cardiology as a separate medical field. So, there is an opinion that it is necessary to allocate competencies that should form the basis for organizing these activities and training specialists in the field of prevention of cardiovascular diseases.[6]

In some countries, the lack of necessary training of preventive cardiologists is due to the fact that their work cannot be connected with the commercial features of providing medical services. For this reason, preventive work takes a back seat, as it does not entail really tangible commercial results. It is known that preventive measures may not appear immediately, but only after a few years, which significantly reduces interest in the development of this science, and, unfortunately, endangers the health of patients, especially those suffering from chronic diseases of various genesis.[7]

Cardiovascular diseases act as a serious problem of public health protection, since they threaten the health of a significant number of the population, regardless of their age. In addition, cardiovascular diseases act as the main cause of disability and a decrease in the quality of life of patients. It is known that the aging of the population on the planet tends to increase, for this reason, preventive measures and the development of new methods of treatment of the disease in question are coming to the fore today.

The mortality rate of the population suffering from cardiovascular ailments is constantly growing, among the main diagnoses that are the cause of this condition, ischemic heart disease and ischemic stroke come to the fore. These ailments, in addition, are the result of an increase in the burden on the population associated with their work activities, environmental degradation, as well as an increase in the level of anxiety and the growth of neurological diseases in this regard.[7]

Primary prevention of cardiovascular diseases is defined by specialists as a set of preventive measures aimed at reducing the risk of clinical cardiovascular events by controlling the main risk factors of cardiovascular diseases, such as smoking, hypertension, dyslipidemia and diabetes, before the occurrence of cardiovascular events.[9]

Specialists have determined that the development and implementation of measures for the primary prevention of cardiovascular diseases is sufficiently effective for those patients who have a predisposition to their development, as well as those who are at risk.[24-27]. The result of this work is a significant reduction in morbidity and mortality from this type of ailment. It is known that a healthy lifestyle acts as a fairly effective and early measure to prevent the development of cardiovascular diseases. It is this aspect that underlies the development of a number of preventive measures in different countries. The structure of a healthy lifestyle as the main factor includes the organization of proper nutrition and reducing the consumption of various “harmful” products by people. In particular, the reduction of salt intake in food by individual specialists is singled out as one of the leading factors that positively affect the reduction of the risk of developing diseases of the cardiovascular system.[10]

The second most important factor is mandatory smoking cessation. Since the use of cigarettes significantly affects the condition of blood vessels, doctors are increasing their attention to people suffering from this bad habit, and direct their actions to prevent smoking at any age, as well as to prevent the use of cigarettes by adolescents and children. However, despite all the efforts of medical specialists, tobacco consumption in the world is still quite high, and this directly affects the dynamics of the development of cardiovascular diseases.[11]

The world’s population is showing an increasing tendency to aging every year, against which there is an increase in patients diagnosed with hypertension, diabetes mellitus, and so on. Most patients who have been diagnosed with such a diagnosis are monitored by medical specialists, and receive appropriate therapy, in which they are prescribed a certain drug complex. At the same time, explanatory work among such patients should be one of the central areas of work of medical specialists. Explaining to patients the possibility of the risk they are exposed to by leading an incorrect lifestyle, as well as ignoring various pharmacological prescriptions to doctors, today acts as the most important direction of preventive measures in the field of preventing the development of cardiovascular diseases.

Arterial hypertension is the most important modifiable risk factor affecting morbidity and mortality from cardiovascular diseases. The increase in the number of patients with hypertension is noted all over the world, and this trend is depressing. Accordingly, reducing the number of patients with this disease is an important problem of modern medicine.

Dyslipidemia is also a rather dangerous pathology today. Studies have shown that the level of low-density lipoprotein cholesterol (LDL-C), a causal risk factor for cardiovascular diseases, is significantly increased in the population of various countries.[12]

Diabetes mellitus is an independent risk factor for cardiovascular diseases. Moreover, with the development of cardiovascular diseases in patients with diabetes mellitus, pathological changes are diffuse and complex in nature and lead to an unfavorable prognosis. Therefore, recent national and international guidelines consider patients with diabetes as a high-risk group for cardiovascular diseases.

Thus, despite the fact that today the attention of physicians is focused on the organization of preventive measures related to obtaining a lifestyle, reducing the impact on the patient's health of certain diseases, this trend still causes concern among specialists around the world. This is due to the fact that not enough attention is paid to the primary prevention of cardiovascular diseases. In addition, it is necessary, along with promoting a healthy lifestyle, to diagnose patients who potentially fall into the risk group for developing cardiovascular diseases, as well as other methods that are a prerequisite for the development of this disease.[13] Such a diagnosis should be accompanied not only by a statement of the facts of the possible development of diseases, but also by the development of certain recommendations that will help reduce the risk of developing cardiovascular diseases, as well as the organization of control over how the patient implements the recommendations received from doctors, and how effective the results of applying these recommendations are.

DISCUSSION

Specialists have developed certain approaches to carrying out preventive measures in the field of the disease in the field of reducing cardiovascular diseases in patients of various risk groups. In the first place is the overall risk assessment, which is positioned as one of the central indicators in the development of preventive measures. To this end, some experts suggest using a certain risk assessment algorithm for the primary prevention of cardiovascular diseases.

At the initial stage, doctors need to assess such risk factors as the patient's smoking, cholesterol levels, as well as the patient's age, given that after 45 years in men and 55 years in women, the risk of developing cardiovascular diseases increases. The degree of such risk indicators as the presence of atherosclerotic cardiovascular disease; BMI: body mass index; CKD: chronic kidney disease; CVD: cardiovascular diseases; HDL-C: high-density lipoprotein cholesterol; LDL-C: low-density lipoprotein cholesterol; TC: Total cholesterol are also assessed.[14]

Assessment of patients of the risk category is carried out in several stages. At the first stage, it is proposed to identify patients who have a high risk of developing cardiovascular diseases. These are patients with diabetes mellitus (aged ≥ 40 years), LDL cholesterol ≥4.9 mmol/L (or total cholesterol (OH) ≥7.2 mmol/L) or chronic kidney disease (CKD).[15] At the next stage, it is proposed to identify patients who belong to the group of ten-year risk of developing cardiovascular diseases.[16] Here, first of all, risk factors such as smoking, low levels of high-density lipoprotein cholesterol (HDL-C) and age ≥45/55 years are taken into account, male/ female). Assessing the combinations and levels of manifestation of certain factors, researchers suggest relying on indicators of possible development of cardiovascular diseases according to the following gradations of development: <5%, 5-9% and ≥10%, which can be characterized as low risk, moderate risk and high risk, respectively.[17]

For patients of all risk groups, it is necessary to develop certain preventive measures that will help reduce the possibility of developing cardiovascular diseases. Experts bring to the fore the organization of nutrition of such patients, assessing to what extent certain products can have a negative impact on the patient's body.

A balanced diet for such patients includes the consumption of fiber-rich foods, such as fresh vegetables and whole grains; limited intake of saturated fats, salt used in cooking and seasoning, and cholesterol; avoiding trans fats; and other measures, such as controlled carbohydrate intake, which together can help reverse or reduce obesity, hypercholesterolemia, diabetes and hypertension and prevent cardiovascular diseases.[18]

Observational studies have shown that participants who consume mainly plant-based foods, including fruits, nuts, vegetables, beans, low-fat vegetable or animal protein (preferably fish), internally soluble and insoluble vegetable fiber, or a Mediterranean diet (consisting mainly of whole grains, nuts, vegetables and fruits with the addition of olive oil, fish and red wine, including poultry and dairy products, red meat or meat products) have a lower mortality rate.[19]

Trans fats and saturated fats are associated with an increased risk of general death and death from specific causes. The results of individual studies have shown that the consumption of saturated and unsaturated fats instead of refined carbohydrates reduces the incidence of stroke and mortality.[20]

Experts also note that reducing daily sodium intake reduces blood pressure and the frequency of cardiovascular events. In addition, it is noted that a high intake of carbohydrates (i.e. sugar) can increase the risk of developing cardiovascular diseases. Drinking just one sugary drink a day can increase the risk of diabetes by 20%. Studies have shown that more than 10% of the energy consumed with added sugar per day is associated with an increased mortality rate.[21] Adults who are used to drinking drinks with a high sugar content can use low-calorie sweetened drinks as an alternative, which provide sweetness while reducing calorie intake and are useful when switching to clean water.

Most researchers note that regular physical activity plays a significant role in maintaining and improving the health of the cardiovascular system. Aerobic exercise is usually safe to perform for all patients and can be organized in the form of

brisk walking, jogging, swimming, cycling, dancing or other activities. People who are accustomed to a sedentary lifestyle should start physical activity with a low intensity for a short time and gradually move to physical activity with a higher intensity. Older people may choose yoga, dancing and other forms of more moderate activity to increase the adaptability of the cardiovascular system. It should be noted that for patients with reduced ability to exercise, the type, intensity and duration of physical activity should be selected individually in accordance with their condition.[22]

Studies have shown that even if the volume of activity is below the current recommended level, the effect of protecting the cardiovascular system is still significant. Thus, all patients and people potentially prone to developing cardiovascular diseases should be encouraged to achieve the recommended minimum amount of activity, and those who cannot do this should gradually increase the amount of activity according to their abilities in order to minimize the risk of cardiovascular diseases. It is necessary to exclude a sedentary lifestyle, since it directly leads to the development of cardiovascular diseases.[23]

CONCLUSION

The risk of developing cardiovascular diseases in the world, despite the conditions being taken, is still quite high. Experts today note that the prevention of the development of cardiovascular diseases today plays an important role in reducing mortality from this disease. However, the management of medical institutions does not always pay full attention to this work, not always considering it appropriate. Meanwhile, it is preventive measures with their competent implementation that can reduce the risk of morbidity, and also increase the survival of certain groups of patients, especially those suffering from concomitant diseases. Measures in this area should include timely diagnosis of the health status of such patients with their attribution to a certain risk group, as well as the development of an individual plan for drug therapy, diet and physical activity, which should take into account the specifics of the patient's health. All of the above will contribute to reducing the morbidity of the population with the disease in question and increasing the survival rate of patients suffering from concomitant diseases, since preventive measures will reduce the burden on the cardiovascular system.

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