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CIRCULATORY DISEASES AND THE ROLE OF NUTRITION

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Abstract. The article discusses the main causes of cardiovascular diseases, including tobacco use, unhealthy diet and obesity, unhealthy lifestyle, physical inactivity, excessive alcohol consumption, and air pollution. Most cardiovascular diseases can be prevented by eliminating behavioral and environmental risk factors. It is important to detect cardiovascular diseases as early as possible, as treatment, medication, and a healthy lifestyle and diet are essential.

Key words: healthy eating, diet, blood circulation, physical inactivity, atherosclerosis, stroke.

According to the World Health Organization, cardiovascular diseases are a major global health problem due to their high incidence and mortality rates. In 2019, an estimated 17.9 million people died from cardiovascular diseases, accounting for 32% of all deaths worldwide. Of these deaths, 85% were due to myocardial infarction and stroke. More than three-quarters of all deaths from cardiovascular diseases occur in low- and middle-income countries. Of the 17 million premature deaths (under 70 years of age) from noncommunicable diseases in 2019 , 38% were due to cardiovascular diseases.

Not smoking, reducing salt and salty foods, increasing fruit and vegetable consumption, engaging in regular physical activity, and limiting alcohol consumption have been shown to reduce the risk of developing cardiovascular disease. Public health strategies that promote healthy eating, including local fruits and vegetables and traditional foods, and create affordable and healthy environments, as well as improving air quality and reducing pollution, are essential for developing health-promoting behaviors.

In other words, the development of circulatory diseases The organization of proper nutrition, a healthy lifestyle . It is worth noting that even people with a genetic predisposition to circulatory diseases can avoid the disease with a healthy lifestyle [1]. The incidence of cardiovascular diseases has decreased over the past 25 years, making it a priority for public health to organize proper nutrition, promote a healthy lifestyle, and especially prevent

circulatory diseases through lifestyle changes [2] . On the other hand, many scientific studies have shown that organizing proper nutrition can be a preventive factor in the death rate from circulatory diseases. [3] .

Healthy eating is not only a preventive measure but also a therapeutic measure for cardiovascular diseases [4] . In this sense, in order to strengthen the prevention of circulatory diseases, the quality of food products and the organization of proper nutrition, the formation of dietary patterns, and the promotion of a healthy lifestyle should be a priority. Improper eating habits, lack of physical exercise, overweight and obesity, or smoking habits, etc. can lead to the development of circulatory diseases.

circulatory diseases, and one of the important causes of malnutrition [5, 6, 7] . Atherosclerosis is the worst cause of circulatory diseases is a pathological process. Therefore, the development of processes involved in the initiation and progression of atherosclerosis, culminating in the rupture of atherosclerotic plaques and the formation of thrombi, is closely related to the mechanisms that influence the consumption of food products and circulatory diseases.

There is clear evidence that serum cholesterol is associated with the risk of coronary artery disease, myocardial infarction, and coronary death [8].

Obesity, especially visceral obesity, is an unproven risk factor for cardiovascular disease and is the result of excess energy balance. This increasing health risk is closely linked to obesity.

Obesity not only predisposes people to cardiovascular diseases and type 2 diabetes, but also leads to chronic inflammatory diseases [9].

Unhealthy eating habits, irregular meals, and of course, lack of exercise lead to weight gain, which in turn plays a significant role in the development of circulatory diseases.

A culture of unhealthy eating habits, which leads to obesity. It is well known that excess weight is a major risk factor for cardiovascular diseases [12]. Obesity is largely determined by body mass index (BMI) between populations. For example, there is a large difference in BMI between Asians and Caucasians. It has been found that overweight and obesity are associated with an increased risk of stroke and ischemic stroke in both men and women [10]. It has also been found that men who are overweight or obese are more likely to have a higher risk of hemorrhagic stroke. The effect of overweight on the risk of circulatory diseases is more likely to occur in men than in women [10].

Trans fats have long been used in the food industry and in the home by heating partially saturated and unsaturated trans fats in ready-made or semi-finished food products at higher temperatures. However, research findings indicate that, due to the increasing negative health effects and the results of biochemical analyses, excess trans fats in the diet are considered a significant risk factor for cardiovascular diseases, as well as a risk factor for cancer and diabetes. A daily intake of more than 2% of the body's energy from trans fats increases the risk of developing cardiovascular diseases by 23%.

In addition, several studies have shown that high consumption of trans fats increases the risk of cancer and diabetes. Studies have shown that regular consumption of trans fats affects lipoproteins, causing atherosclerosis, stroke, diabetes, and cancer, as well as increasing the risk of cardiovascular disease [11] .

high blood pressure and salt intake are major causes of cardiovascular disease. There is a wealth of evidence to support this claim, including scientific studies, animal studies, and observational studies [12].

hypertension , salt intake is a major factor. We know that higher salt intake is associated with an increased risk of hypertension, and reducing dietary salt intake reduces the risk of developing hypertension. In addition, salt intake and the development of hypertension are associated with a number of important risk factors, including genetic factors and environmental factors, such as high salt intake, as well as dietary culture. Studies have shown that consuming 20% fructose reduces salt sensitivity and increases the risk of hypertension [13].

Additionally, high fructose intake and high salt and salt-containing foods in adolescents' diets have been shown to lead to arterial stiffness and left ventricular diastolic dysfunction, which in turn increases the risk of heart failure. High salt and salt-containing foods are associated with increased risk of hypertension and heart failure [13].

We know that a healthy diet and a healthy lifestyle are of great importance not only in preventing circulatory diseases, but also in preventing and treating diabetes, malignant tumors, and other diseases. Many diets have been proposed to prevent circulatory diseases.

consumption of fruits, vegetables, legumes, fish and seafood products, nuts, pistachios, almonds, spices, legumes, vegetable oils (mainly olive oil) and dairy products in the daily diet, as well as low consumption of baked products with various types of margarine, carbonated drinks, and processed meat products. is important [14,15].

Currently, the Mediterranean and DASH (Dietary Approaches to Stop Hypertension) diets are well-studied and recommended for the prevention of cardiovascular disease. These diets may reduce the risk of cardiovascular disease through lower levels of risk factors and better control of body weight [14,15].

In conclusion, tobacco consumption, table salt and salty products consumption, Other factors such as poor diet and obesity, unhealthy lifestyle, physical inactivity, excessive alcohol consumption and air pollution contribute to most of the risk factors for cardiovascular diseases. Proper nutrition, a healthy lifestyle and the avoidance of harmful habits are essential for the prevention of cardiovascular diseases. Implementing appropriate and effective dietary changes for cardiovascular diseases has been one of the greatest challenges for preventive cardiovascular medicine since the beginning of the century . A better understanding of how dietary changes for cardiovascular diseases work, as well as ongoing scientific research and scientific evidence, will lead to effective results in preventing the development of diseases.

REFERENCES

1. Khera, A.V.; Emdin, C.A.; Drake, I.; Natarajan, P.; Bick, A.G.; Cook, N.R.; Chasman, D.I.; Baber, U.; Mehran, R.; Rader, D.J.; et al. Genetic risk, adherence to a healthy lifestyle, and coronary disease. N. Engl. J. Med. 2016, 375, 2349–2358.

2. O'Rourke K., Vander Zanden A., Shepard D., Leach-Kemon K. For the Institute for Health Metrics and Evaluation. Cardiovascular disease worldwide, 1990–2013. JAMA. 2015;314:1905. doi: 10.1001/jama.2015.14994.

3. Mozaffarian D., Ludwig D.S. Dietary guidelines in the 21st century: A time for food. JAMA. 2010;304:681–682. doi: 10.1001/jama.2010.1116.

4. Lacroix S., Cantin J., Nigam A. Contemporary issues regarding nutrition in cardiovascular rehabilitation. Ann. Phys. Rehabil. Med. 2017;60:36–42. doi: 10.1016/j.rehab.2016.07.262.

5. Mozaffarian D., Ludwig D.S. Dietary guidelines in the 21st century: A time for food. JAMA. 2010;304:681–682. doi: 10.1001/jama.2010.1116. Libby P. Interleukin-1 beta as a target for atherosclerosis therapy: Biological basis of CANTOS and beyond. J. Am. Coll. Cardiol. 2017;70:2278–2289. doi: 10.1016/j.jacc.2017.09.028.

6. Libby P., Hansson G.K. Taming immune and inflammatory responses to treat atherosclerosis. J. Am. Coll. Cardiol. 2018;71:173–176. doi: 10.1016/j.jacc.2017.10.081.

7. Micha R., Peñalvo J.L., Cudhea F., Imamura F., Rehm C.D., Mozaffarian D. Association between dietary factors and mortality from heart disease, stroke, and type 2 diabetes in the United States. JAMA. 2017;317:912–924. doi: 10.1001/jama.2017.0947.

8. Anderson KM, Castelli WP, Levy D Cholesterol and mortality. 30 years of follow-up from the Framingham study Jama, 257 (1987), pp. 2176-2180

9. Hotamisligil GS Inflammatory pathways and insulin action Int J Obes Relat Metab Disord, 27 (suppl) (2003), pp. S53-S55

10. Shiozawa, M.; Kaneko, H.; Itoh, H.; Morita, K.; Okada, A.; Matsuoka, S.; Kiriyama, H.; Kamon, T.; Fujiu, K.; Michihata, N.; et al. Association of body mass index with ischemic and hemorrhagic stroke. Nutrients 2021, 13, 2343

11. Islam, M.A.; Amin, M.N.; Siddiqui, S.A.; Hossain, M.P.; Sultana, F.; Kabir, M.R. Trans fatty acids and lipid profile: A serious risk factor to cardiovascular disease, cancer and diabetes. Diabetes Metab. Syndr. 2019, 13, 1643–1647

12. Virani, S.S.; Alonso, A.; Aparicio, H.J.; Benjamin, E.J.; Bittencourt, M.S.; Callaway, C.W.; Carson, A.P.; Chamberlain, A.M.; Cheng, S.; Delling, F.N.; et al. Heart disease and stroke statistics-2021 update: A report from the American heart association. Circulation 2021, 143, e254–e743

13. Levanovich, P.E.; Chung, C.S.; Komnenov, D.; Rossi, N.F. Fructose plus high-salt diet in early life results in salt-sensitive cardiovascular changes in mature male sprague dawley rats. Nutrients 2021, 13, 3129

14. Mozaffarian D. Dietary and policy priorities for cardiovascular disease, diabetes, and obesity: A comprehensive review. Circulation. 2016;133:187–225. doi: 10.1161/CIRCULATIONAHA.115.018585.

15. Silveira B.K.S., Oliveira T.M.S., Andrade P.A., Hermsdorff H.H.M., Rosa C.O.B., Franceschini S.D.C.C. Dietary pattern and macronutrients profile on the variation of inflammatory biomarkers: Scientific Update. Cardiol. Res. Pract. 2018;2018:4762575. doi: 10.1155/2018/4762575.