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EFFECTS OF LIFESTYLE-RELATED FACTORS ON ISCHEMIC HEART

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Cardiovascular disease is one of the most common causes of death in the world. Because of uptrend and staggering expenses of health care and remedies, this study was investigated with goal of exploring the relationship between lifestyle and ischemic heart disease.

This study included analysis of literature data about the problem and also was as case-control study. It consists of 360 participants for case group and 360 participants for control group in health centres of Uremia. Both groups were compared regarding age, sex, and location. Six modifiable risk factors were evaluated: 1) sedentary lifestyle, 2) high blood pressure, 2) smoking, 4) stress 5) obesity and 6) diabetes. Data collection tool was a standard questionnaire of lifestyle which explored 10 types of lifestyles.

SPSS v.20 software has been used for data analysis of T-test, Chi-square test, and Logistic Regression in 0.05 significance level.

The results of this study showed that a sedentary lifestyle increases insulin resistance, induces obesity, increases blood glucose levels, plasma lipids and prothrombotic factors.

Arterial hypertension contributes to vascular damage and coronary artery calcification. In addition to hypertension, smoking considered as one of the key factors increasing the risk of vascular diseases. Tobacco smoke contains condensed tar particles with oxidizing and pro-oxidant effects that produce free radicals, thus increasing lipid peroxidation in biological membranes. Free radicals and oxidative stress play a crucial role in a broad spectrum of cardiovascular (CV) disease pathophysiology. Smoking also plays a vital role in atherogenesis, coronary spasms, coagulation mechanism disorders, increased oxidation of LDL-cholesterol, platelet aggregation, fibrinogen growth, diseases of endothelial function, and altered lipid profiles (reduced HDL cholesterol). Smoking also can produce DNA mutations in lung cells that increase the risk of lung cancer.

It was revealed that stress has also been linked to CV disease risk. Post-traumatic stress disorder and chronic stress have been connected to CV disease risk as they can affect the body's ability to regulate its stress-response system resulting in raised heart rate, blood pressure and atherosclerosis. Three pathophysiological mechanisms of chronic cardiovascular disease are correlated with stress: 1) disturbance of the hypothalamic-pituitary-adrenal axis, by increasing the level of serum cortisol due to stress, 2) inflammation of the arterial (endothelial) wall, which causes atherosclerosis, 3) increasing the tone of the sympathetic vegetative nervous system.

The important role in cardiovascular diseases is obesity. Obesity is linked to all the mechanisms of vascular disease: dyslipidemia, hypercoagulability, platelet dysfunction, insulin resistance and type 2 diabetes, inflammation. Pathogenic pathways of vascular disease are interconnected by circulating factors, and adipose tissue is an important source for many circulating mediators that promote insulin resistance, pro-inflammatory and prothrombotic status, and thus promote cardiovascular disease

Together with the obesity, type II diabetes (T2D), which is a result of the body's ineffective use of insulin due to inadequate insulin secretion by pancreatic β cells leads to Increased plasma glucose levels is responsible for glycosylation of proteins in the arterial walls and nerves and causes alteration of their structure. These leads to decrease their resistance to the action of oxygen free radicals, increase inflammation at the endothelial level, with the deposition of VLDL and LDL cholesterol particles at this level and the formation of atheroma plaque.

The findings of this study indicate that insufficient mobility, high fat and low fiber diet, as well as high blood pressure, smoking, stress and diabetes can be major causes and risk factors for the incidence of cardiac ischemia.