Evaluation of bad habits as risk factors for cardiovascular diseases in Sarajevo Canton

Suada Branković[1]*, Refet Gojak[2], Admir Rama[2], Mersa Šegalo[2],
Amra Mačak Hadžiomerović[1], Amila Jaganjac[1]

[1] Faculty of Health Studies in Sarajevo, Bolnička 25, Sarajevo, Bosnia and Herzegovina. [2] Clinical Center of the University of Sarajevo, Bolnička 25, Sarajevo, Bosnia and Herzegovina

Abstract

Introduction: Cardiovascular diseases by its frequency, epidemic expenditure, socio-medical consequences and with high mortality are becoming the biggest problem of modern medicine. Mortality from cardiovascular diseases declines due to prevention measures in developed countries, in developing countries and countries in transition it increases. The aim of this study was to determine the prevalence of harmful habits and connection as a risk factor for cardiovascular disease in economically active population in the Canton of Sarajevo.
Methods: The study was conducted among the active population of Sarajevo Canton. Randomly selected 443 respondents from different groups of workers aged 18-65 years, who voluntarily joined the study. We performed a study intersection descriptive method of research. Instrument for conducting research was a set of questionnaires, designed for research purposes.
Results: The results study showed that the study group, current smokers occupy 45%, 1.8% occasional smokers who smoke and the rest of nonsmokers. It was shown that subjects who consume alcohol in biggest percentage 73.4% consumed the same day, while the smallest percentage 2.7% comprise the same subjects who consumed annually.
Conclusions: The prevalence of harmful habits as risk factors for cardiovascular disease among subjects in the Sarajevo Canton is evident represented. It is a significant development of the country, because it affects the health promotion strategy, which consequently changes the behavior based on individual needs. Health education and promotion of health can be reduced or completely prevented by a number of risk factors for cardiovascular disease.

Keywords: risk factors, cardiovascular disease, prevention

Introduction

According to the World Health Organization (WHO), cardiovascular diseases are the leading cause of death in the world die annually of which about 17 million people, of which 5 million in Europe. World Health Organization estimates based on monitoring the demo-demographic trends, trends in mortality and morbitideta and economic models, the further increase of cardiovascular diseases especially in developing countries. The estimates for 2020. one predicts that the world will be ischemic heart disease reside in the first place, and cerebrovascular disease on the fourth of all patients.

Over the centuries the health risks are significantly changed, and the most health risk changes have occurred in the second half of the twentieth century. Many changes have happened in lifestyle and habits of people, particularly in nutrition, physical activity, consumption of cigarettes and alcohol These changes in the way life have huge impact on public health in the 21st century and they represent a health risk transition which is caused by an alarming increase of risk factors in developing countries and least developed countries (1). Risk factors of cardiovascular diseases are already established than two decades ago. The American Heart Association has identified several risks (2). Some of them can be treated or kept under control, and some may not. The more risk factors are present and united the better the chances of developing cardiovascular disease are (3). The term,, the risk factor "is often used to describe those

* Corresponding author: Ms. Suada Branković
Faculty of Health Studies in Sarajevo, Bolnička
25, Sarajevo, Bosnia and Herzegovina
phone: +387 33 569 800
E-mail: suada.brankovic@fzs.unsa.ba

characteristics that are found in healthy individuals, and for which an epidemiological study that associated with the subsequent emergence of the disease, in the case of cardiovascular diseases (4). Risk factors that can not be affected: the age, gender, heredity and race. Risk factors that can affect: smoking, the value of cholesterol in the blood, blood pressure, physical activity, obesity and overweight, diabetes, excessive alcohol consumption, stress. The prevention of cardiovascular disease is significant daily physical activity, ability, moderate alcohol consumption, smoking cessation, and avoiding stress, which is particularly important, adequate nutrition. It includes foods low in fat, eating a lot of partspital fiber (oats, apples, legumes). It is also significantly reduced intake of simple and refined carbohydrates, as early as those in sugar and sweets. In patients with hypertension-known tea to limit dietary salt. Justifying the application of vitamins and minerals on the basis of the available studies are still quite ambivalent. The prevention and treatment of cardiovascular disease when it is necessary to take medication for lowering fat, medications for lowering blood pressure, well-regulated diabetes and take medications that protect blood vessels. This drug can have some very undesirable to the action, but it is a negligible benefit to the patients by taking regular treatment. Heritable component is significant in the development of cardiovascular disease, but the of prop-preventive measures and treatment can delay the emergence of the disease. The lipid-lowering therapy is now widely used statins, and fibarati. Their work-suboptimal effectiveness in primary and secondary prevention of disease was documented in a series of studies (5,6). With the reduction in fat and they contribute to the calming of inflammation in blood vessels. There should also be noted that proper low fat diet is crucial. The European Society of Cardiology in collaboration with the European Atherosclerosis Society and European Society of Hypertension summarize all of these risk factors in 1994 and first published recommendations for the prevention of coronary heart disease in clinical practice. From then on the basis of new insights these measures are supplemented and 1998 as published recommendations for primary and secondary

prevention of coronary heart disease. The priorities are first of all give a reduction in the campaign against smoking, healthy eating, increasing physical activity, and this applies to the entire population. Use of medication is recommended only for those who have coronary disease or other diseases caused by atherosclerosis, or people who have increased risk factors for the development of such diseases in the near future (7,8). Objective of this research was to determine the incidence of harmful habits and link them as a risk factor for cardiovascular disease in economically active population in the Canton of Sarajevo.

Methods

The study was conducted among the active population of Sarajevo Canton. Randomly selected 443 respondents from different groups of workers of the age range 18-65 years, who voluntarily joined the study. Criteria for inclusion of subjects in the study is that they reside in the Canton of Sarajevo, that are employed and aged between 18-65 years of life. Criteria for exclusion of subjects that are not residing in Sarajevo, that are younger than 18 and older than 65 years, and are not employed. We performed a study intersection (cross-sectional study) descriptive method of research. Instrument for conducting research was a set of questionnaires, designed for research purposes.

Results

Fat in the blood never measure of 59 (13.3%) patients, more than 5 years 22 (5.0%), with 1-5 years 93 (21%), in the last 12 months, 94 (21.2%), and in the past six months 175 (39.5%) (Table 1).

TABLE 1. Control of blood fats (cholesterol)

Blood Fat	Number	Percent %	Valid Percent %	Cumulative percent %
In past 6 months	175	39.5	39.5	39.5
In past 12 months	94	21.2	21.2	60.7
1 - 5 years ago	93	21.0	21.0	81.7
More than 5 years ago	22	5.0	5.0	86.7
Never	59	13.3	13.3	100.0
Total	443	100.0	100.0	

TABLE 2. Control of blood pressure

Blood Pressure	Number	Percent %	Valid Percent %	Cumulative percent %
In past 6 months	226	51.0	51.0	51.0
In past 12 months	88	19.9	19.9	70.9
1-5 years ago	90	20.3	20.3	91.2
More than 5 years ago	23	5.2	5.2	96.4
Never	16	3.6	3.6	100.0
Total	443	100.0	100.0	

TABLE 3. Control of blood sugar

Blood Sugar	Number	Percent %	Valid Percent%	Cumulative percent %
In past 6 months	192	43.3	43.3	43.3
In past 12 months	99	22.3	22.3	65.7
1-5 years ago	93	21.0	21.0	86.7
More than 5 years ago	20	4.5	4.5	91.2
Never	39	8.8	8.8	100.0
Total	443	100.0	100.0	

TABLE 4. Minor physical activities (walking)

	Number	Percent %	Valid Percent%	Cumulative percent %
I go to work by car or public transportation	107	24.2	24.4	24.4
Less than 15 min daily	84	19.0	19.1	43.5
15-30 min daily	170	38.4	38.7	82.2
31-60 min daily	58	13.1	13.2	95.4
More than 1 hour daily	20	4.5	4.6	100.0
Total	439	99.1	100.0	
No response	4	.9		
Total	443	100.0		

TABLE 5. The current attitude towards smoking

	Number	Percent %	Valid Percent%	Cumulative percent %
Yes, daily	194	43.8	45.0	45.0
Yes, occasionally	8	1.8	1.9	46.9
No, I don't smoke	229	51.7	53.1	100.0
Total	431	97.3	100.0	
No response	12	2.7		
Total	443	100.0		
No response	4	.9		
Total	443	100.0		

TABLE 6. Tendency to quit smoking

	Number	Percent %	Valid Percent%	Cumulative percent %
I don't smoke	239	54.0	54.6	54.6
No	18	4.1	4.1	58.7
Yes	39	8.8	8.9	67.6
Not sure	142	32.1	32.4	100.0
Total	438	98.9	100.0	
Not questioned	5	1.1		
Total	443	100.0		

TABLE 7. The attitude towards alcohol consumption in the past 12 months

	Number	Percent %	Valid Percent%	Cumulative percent %
Yes	151	34.1	34.6	34.6
No	286	64.6	65.4	100.0
Total	437	98.6	100.0	
Not questioned	6	1.4		
Total	443	100.0		

Blood pressure was never measure 16 (3.6%) patients, which is not insignificant number, more than 5 years 23 (5.2%), before 1-5 years 90 (20.3%), in the last 12 months, 88 (19.9%), and 226 (51%) is a measure of blood pressure in the past 6 months (Table 2). Blood sugar control has never worked for 39 (8.8%) patients, more than 5 years were 20 (4.5%) subjects, before 1-5 years 93 (21%) of respondents in the past 12 months that number was 99 (22.3%), and in the past 6 months (43.3%) (Table 3). Walking of 15-30 minutes daily practiced 170 (38.4%) respondents, 107 (24.2%) goes to work by car, transport and walk more than an hour practiced 20 (4.5%) patients (Table 4).

TABLE 8. Frequency of alcohol consumption

	Number	Percent %	Valid Percent%	Cumulative percent %
Daily	325	73.4	79.9	79.9
Couple times per week	37	8.4	9.1	88.9
1x weekly	14	3.2	3.4	92.4
Couple times per month	19	4.3	4.7	97.1
Couple times per year	12	2.7	2.9	100.0
Total questioned	407	91.9	100.0	
Not questioned	36	8.1		
Total	443	100		

Currently, daily smoking 194 respondents (43.8%), occasionally 8 (1.8%), 229 (51.7%) non-smoking (Table 5). Of the total number of respondents 18 (4.1%) said they did not want to quit smoking, 39 (8.8%), wanting to quit smoking, while others are not sure 142 (32.1%) (Table 6). In the past 12 months 151 (34.1%) of respondents consumed alcohol, and not consumed 286 (64.6%) (Table 7). Concerned about the frequency of alcohol consumption on a daily basis which is present in 325 (73.4%) patients, once a week, 37 (8.4%), several times a month 19 (4.3%), and several times a year, 12 (2.7%) (Table 8).

Discussion

Cardiovascular disease is its frequency, momentum epidemic, socio-medical consequences, with high mortality are becoming the biggest problem of modern medicine. The biggest mortality from these diseases in developed countries, then come to a country in transition and the lowest in developing countries. However, while mortality from cardiovascular disease prevention measures due to declines in developed countries, developing countries and transition increases (9). Longitudinal studies and meta-analysis studies have demonstrated a clear ability cardiovascular diseases prevention (9). Modification of lifestyle, reducing risk factors, particularly by changing the way non-nourished, smoking cessation, increasing physical activity, blood pressure control can operate effectively in the prevention and reduction of cardiovascular disease. It is necessary to intro-

duce the Prevention of Cardiovascular diseases as an integral part of health care for the population and an integral part of treatment of disease, which is widely accepted in developed countries (9). Tobacco smoking is an independent risk factor for cardiovascular disease. Adverse effects are proportional to the length and amount of cigarettes smoked. Adverse effects also affect men and women canceling the relative protection of women against atherosclerosis. The risk for cardiovascular disease is particularly high if smoking starts before 15 years of age. Passive smoking also increases the risk of cardiovascular disease and other diseases that are etiologically associated with smoking. In tobacco smoke there are a large number of chemicals that are harmful and nicotine, tar and carbon monoxide are the major component (10). Causal link between tobacco smoking and cardiovascular disease is strong, continuous and independent. Given that smoking falls into the category of major risk factors, prevention of smoking is of great importance (10). The results of our study showed that the study group, current smokers (smokers who smoke every day) occupy 45%, 1.8% occasional smokers who smoke and take the rest of nonsmokers. Of the total number of smokers in the questionnaire 9% said they did not want to quit smoking, 19.5% want to quit smoking, and 71.5% not sure. The results of our study showed that in the study group, 34.1% in the last 12 months, consumed alcohol, while the other 65.9% had consumed alcohol. It was shown that subjects who consume alcohol in biggest percentage (73.4%) consumed the same day, while the smallest percentage (2.7%) comprise the same subjects who consumed annually. Moderate alcohol consumption is not harmful to the cardiovascular system, but because of adverse social and health effects of alcohol on the population can not make recommendations for the safe amount of alcohol use (11). In the plasma lipids such as cholesterol and triglycerides associated with various proteins to form lipoproteins. Effect of the atherosclerotic process depends on the size of the lipoprotein. Small high density lipoproteins (HDL) do not cause atherosclerosis, in contrast, lipoprotein-labeled low density (LDL) and very low density (VLDL) penetrate the artery wall, and if

they are modified by oxidation is retained in the wall of arteries causing atherosclerosis. The highest power-molecules Chylomicrons are too large to enter the artery wall and are not atherogenic. Correlation LDL cholesterol and cardiovascular diseases have been proven in many epidemiological and clinical trials. Also, at moderate elevations LDL cholesterol, if present additional risk factors such as smoking, hypertension or diabetes, significantly worsens the effect of LDL. At high LDL cholesterol (7-10 mmol / l) leads to cardiovascular disease and without other risk factors. Importance of reducing total cholesterol and LDL fraction is extremely important. Triglycerides - increased concentration of triglycerides in the blood increases the risk for cardio-vascular diseases but not so much as LDL cholesterol. In many studies, the concentration of triglycerides over 5.0 mmol / l the risk of cardiovascular disease. This relationship is somewhat stronger among women and young men. Epidemiological studies have indicated that the combination of triglycerides greater than 2.0 mmol / l HDL cholesterol lower than 1.0 mmol / L indicates high risk for cardiovascular disease, especially if the relationship between cholesterol and HDL greater than the fifth Increase LDL cholesterol increases the risk for cardiovascular disease by approximately 20%. Almost all studies have shown that reducing cholesterol can significantly inhibit the progression of cardiovascular disease (12). The results of our study showed that the highest percentage (43.3%) in the study group was in control of fat in the blood in the past 6 months, and the lowest percent (4.5%) was in control of the same more than 5 years. The results of the questionnaire showed that the highest percentage (97.5%) using vegetable oil as the fat is in food preparation. There was a correlation between education level and control blood fats. Nutrition is an important cardiovascular risk. Saturated fatty acids in the diet increased LDL cholesterol. Replacing saturated fat with unsaturated fatty acids in the diet lowers LDL cholesterol HDL cholesterol not changed. As a good child adopted are those that have a lot of unsaturated fat and low in saturated, or those with small amounts of saturated fat with complex carbohydrate rich. WHO research has shown that a healthy diet reduces cardio-

vascular disease by 18% and other diseases by 28%. In many epidemiological studies have demonstrated the importance of increased blood pressure as a major risk factor for cardiovascular disease. Comparing normotensive and hypertensive individuals showed that individuals with hypertension often have with other risk factors like diabetes mellitus, dyslipidemia, obesity and overall have a higher cardiovascular risk. After middle age, systolic pressure is a stronger predictor of cardiovascular disease. In some studies, increased systolic and diastolic blood pressure above 120/80 showed a higher risk, and if the tension reaches 160/100 risk was increased times. Besides genetic factors may be caused by hypertension, obesity, alcohol consumption, intake of large quantities of salt-form, high intake of animal fats, and other factors. Monitoring of blood pressure, often measuring largely be prevented progression of hypertension, which may often remain unnoticed, and if blood pressure is not measured regularly (13). Our results, research showed that 51% of respondents in the past 6 months measured blood pressure, 19.9% in the past 12 months, 20.3% in the prior 1-5 years, and the remaining 5 years ago. Epidemiological studies have shown that passive sedanteran life without physical work and activities have a negative impact on health and is determined by the risk of disease from all cardiovascular diseases. It is assumed that physical activity has a positive effect on reducing the risks of changing factors like blood pressure, serum lipid profile, glucose tolerance and obesity. It is believed that the best result among those with higher energy consumption of 2000 calories per week of physical activity, which represents about 1 hour of daily exercise (14). The results of our study showed that the highest percentage (38.4%) patients a day to walk 15-30 minutes, 24.2% of respondents could not walk, and the lowest percentage (4.5%) patients a day hike of more than one hour. According to numerous epidemiological studies there is a linear relationship between total body mass and mortality. The risks for cardiovascular disease increased with increasing body weighs-term because it increases blood pressure and blood fat, and reduced glucose tolerance. As per separate center-harm profile indicates the type of central obesity with increasing intra-abdominal adipose tissue. Reduction of

body weight decreases and alters other risk factors for cardio-vascular diseases. Monitoring of body weight, maintain optimal weight and body mass index has a significant preventive effect in reducing the risk of cardiovascular disease (15).

Conclusion

The prevalence of harmful habits as risk factors for cardiovascular disease among subjects in the Sarajevo Canton is evident represented. Smoked significantly more patients (p = 0.007), degree of alcohol consumption is very high (73.4%). Causal link between tobacco smoking and cardiovascular disease is strong, continuous and independent. Given that smoking falls into the category of major risk factors, preven-

tion of smoking is of great importance (10). Taking high amounts of alcohol increases blood pressure, increases the risk of stroke, increased incidence of cardiomyopathy and cardiac arrhythmias (11). It is a significant development of the country, because it affects the health promotion strategy, which consequently changes the behavior based on individual needs, whose positive direction is one of the important goals. Health education and promotion of health can be reduced or completely prevented by a number of risk factors for cardiovascular diseases.

Competing interests

Authors state that there are no conflicts of interests related to this study.

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