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CIRCULATORY SYSTEM DISEASES IN SARAJEVO CANTON

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Abstract

Noncommunicable diseases, including diseases of the circulatory system, are very widespread in the population and represent a mass phenomenon in which the etiologic factors are not biological or infectious factors, they have a lengthy course and usually last a lifetime, causing serious consequences for human health. The main risk factors for the development of noncommunicable diseases, except genetic predisposition, are conditioned by habits and lifestyle, and can be significantly reduced by application of effective measures and interventions for prevention and control of these diseases. The diseases of the circulatory system have a major public health importance as the leading causes of mortality and the leading diseases in the world, especially in developed countries, but also in developing countries.

The objective of this paper is to present the prevalence and trends of diseases of the circulatory system in the morbidity and mortality of the population of Sarajevo Canton. The paper uses retrospective descriptive statistical methods, such as data on morbidity registered in primary health care in the Sarajevo Canton and mortality data of the Institute for Statistics of Federation of BiH. The results show that hypertensive disease, apart from acute upper respiratory infections, is the leading disease in morbidity of the population of Sarajevo Canton (10.95%), and that the diseases of the circulatory system are the leading cause of death of the population of Sarajevo Canton (41.69%). More women die of these diseases (53.78%) in relation to men (46.22%), but in the age group below 65 years of age more men (69.71%) die from circulatory diseases in relation to women (30.29%). The leading causes of death for women in the Sarajevo Canton among diseases of the circulatory system are stroke/cerebral infarction and chronic ischemic heart disease, while among men these are stroke/cerebral infarction and acute myocardial infarction.

Key words: noncommunicable diseases, diseases of the circulatory system, the leading disease, the leading cause of death

Introduction

Chronic mass noncommunicable diseases, including circulatory system disease, are widely spread in population and represent a mass phenomenon where etiological factors are not biological; they have extended duration and usually last for life, causing serious health consequences. Characterized by co-morbidity, they cause high treatment costs because they require specialist and subspecialist work, as well as usage of expensive and highly sophisticated medical equipment (1). Apart from this, chronic mass non-communicable diseases are leading causes of death, not only in Bosnia and Herzegovina, but also in the world, especially in developed countries, but in developing countries as well.

Main risk factors for occurrence and development of chronic mass non-communicable diseases are caused by habits and lifestyle i.e. smoking, physical inactivity, alcohol, improper diet, as well as exposure to stress (2), which, as a consequence, leads to development of biological risk factors (high blood pressure, overweight and obesity, high cholesterol and high blood sugar), which, with genetic predisposition, leads to creation and development of chronic mass non-communicable diseases (3).

Interest for chronic mass non-communicable diseases accrued, not only because of growing trend of these diseases, but also because of their negative impact on economy and development, so the World Economic Forum marked chronic mass non-communicable diseases as one of the key risks for world economy, not only because high treatment costs, but also because of low productivity caused by premature death, invalidity and absence from work (sick leave) because of these diseases.

Among chronic mass non-communicable diseases special place and public health importance belongs to circulatory system diseases, registered as leading causes of death and leading diseases in Sarajevo Canton (4).

Paper objective

Objective of this paper is to show representation and trends of circulatory system diseases in morbidity and mortality of Sarajevo Canton's population.

Methods

Paper uses retrospective and descriptive statistical method, and among data used is: morbidity data registered in primary health care in the Sarajevo Canton area and mortality data from Institute for Statistic of FBiH.

Results

Among leading diseases of Sarajevo Canton's population in 2015, in the second place are hypertensive diseases with index structure of 10.95% and morbidity rate of 1.274,74 per 10.000 inhabitants. Hypertensive diseases are registered in the first place among leading diseases in 19-64 age group with an index structure of 16.26% and in the age group of 65 and above with an index structure of 21.91%.

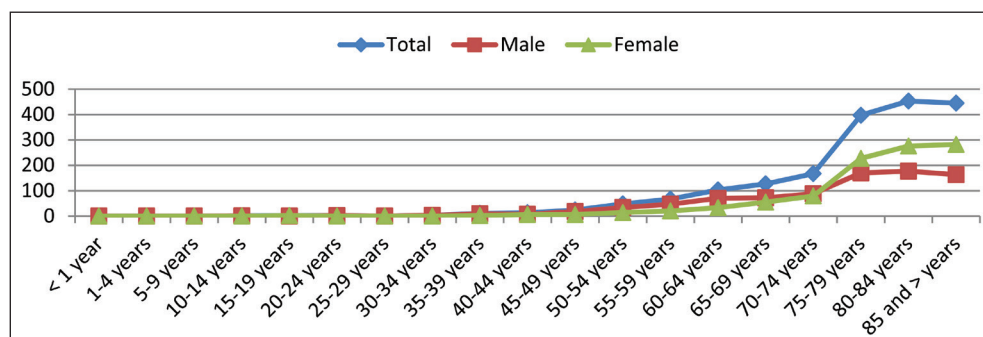
Table 1: Morbidity of Sarajevo Canton population from circulatory diseases in 2015, review by age groups

Disease name by X MKB	Sarajevo Canton's population					
	Total		19-64 age		65 > age	
	Rank	Index structure	Rank	Index structure	Rank	Index structure
Hypertensive diseases (I ₁₀ -I ₁₅)	2	10.95%	1	16.26%	1	21.91%

Also, among ten leading chronic mass non-communicable diseases in Sarajevo Canton, in the first place are hypertensive diseases, then other ischemic heart diseases in the fifth place and other circulatory diseases in the eight place (5).

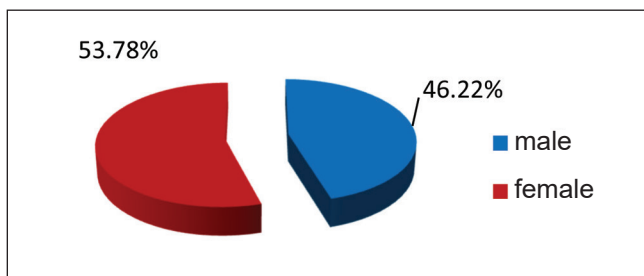
Leading causes of death of Sarajevo Canton's population in 2015, as in previous years of mortality monitoring, are circulatory system diseases with an index structure of 41.68% and mortality rate of 4.17%. Circulatory system diseases mostly threaten the life of age group of 65 and older (85.29%), while the population under 65 years of age died from circulatory system diseases in significantly lower percentage (14.71% in this age group died from circulatory system diseases).

Chart 1: Mortality of Sarajevo Canton's population from circulatory system diseases in 2015, overview per five-year groups and by gender



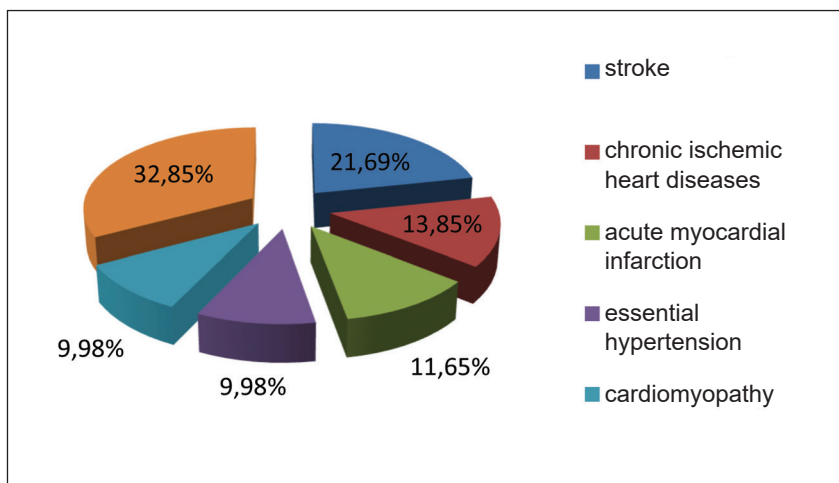
Female population in Sarajevo Canton died more from circulatory system diseases (53.78%) in comparison to men (46.22%). However, in the age group under 65, men died more (191 men or 69.71%) in comparison to women (83 women or 30.29%).

Chart 2: Gender structure of persons who died from circulatory system diseases in 2015



Leading death causes of Sarajevo Canton's population from circulatory system diseases in 2015 were: stroke, chronic ischemic heart diseases, acute myocardial infarction, essential hypertension and cardiomyopathy. Circulatory system diseases from which women mostly died are stroke and chronic ischemic heart diseases, while men mostly died from stroke and acute myocardial infarction (6).

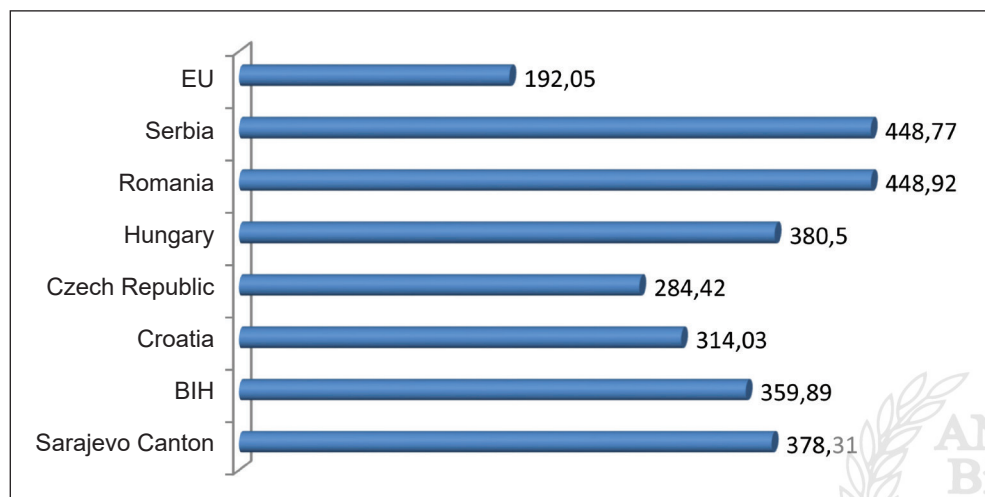
Chart 3: Structure of leading causes of death of Sarajevo Canton's inhabitants from circulatory system disease in 2015



According to latest available data from WHO database "Health for All" (WHO/EUROPE, EUROPEAN HFA Database) mortality rate from

circulatory system diseases for EU in 2014 was 192.05 per 100,000 inhabitants. According to the same source, mortality rate from circulatory system diseases in 2014 for Bosnia and Herzegovina was 378.31 per 100,000 inhabitants (7).

Chart 4: Mortality rate from circulatory system disease per 100,000 inhabitants in selected European countries, 2014



Discussion

Circulatory system diseases, as chronic mass noncommunicable diseases, hold special place and public health importance because they are registered as leading causes of death and as leading diseases with continuous growth trend, not only in the world, but also among the population of Sarajevo Canton.

In total morbidity structure of Sarajevo Canton, chronic mass non-communicable diseases makes more than 20.00% of all registered diseases, and hypertensive diseases are registered in second place among leading diseases in Sarajevo Canton's population. In Sarajevo Canton, mortality from chronic mass non-communicable diseases represents leading death causes, with participation of circulatory system diseases of 41.68%.

Circulatory diseases have negative impact on economic development as well, not only because treatment cost is rising, but also because productivity loss due to early deaths, invalidity and absence from work due to sick leaves because of these diseases.

According to Institute for Public Health of Sarajevo Canton, main risk factors for creation and development of noncommunicable diseases, including circulatory system diseases, are conditioned by habits and lifestyles, such as smoking, physical inactivity, excessive alcohol use, inappropriate diet and stress exposure.

It is known that for long term results, it is better to invest in prevention than in disease treatment, and that with preventive activities it is possible to significantly reduce circulatory system diseases (8). It is proven that there are efficient interventions to prevent and control these diseases, primarily by reducing the risk factors, early detection of disease and by timely treatment.

Recommendations

Integrated approach in prevention of circulatory diseases is necessary, especially on primary health and public health levels.

Preventive activities on public health level should include campaigns against smoking and obesity, with promotion of healthy lifestyle and conduction of early detection/screening of disease.

Preventive activities on primary health care level, in relation to family medicine teams, should include activities on determining total cardiovascular risk by which ten-year risk from creation or development of circulatory system disease is estimated.

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OBOLJENJA CIRKULATORNOG SISTEMA U KANTONU SARAJEVO

Sažetak

Hronične masovne nezarazne bolesti, uključujući i oboljenja cirkulatornog sistema, su veoma raširene u populaciji i predstavljaju masovnu pojavu kod kojih etiološki faktori nisu biološki faktori, imaju dugotrajan tok i obično traju doživotno, izazivajući ozbiljne posljedice po zdravlje ljudi. Glavni faktori rizika za nastanak i razvoj hroničnih masovnih nezaraznih bolesti, pored genetske predispozicije, su uslovljeni navikama i stilom života, koji se mogu značajno reducirati primjenom efikasnih mjera i intervencija za prevenciju i kontrolu ovih oboljenja. Oboljenja cirkulatornog sistema imaju veliki javnozdravstveni značaj kao vodeći uzroci mortaliteta i vodeća oboljenja u svijetu, naročito u razvijenim zemljama, ali i u zemljama u razvoju.

Cilj ovog rada je prikazati zastupljenost i trendove kretanja oboljenja cirkulatornog sistema u morbiditetu i mortalitetu stanovništva Kantona Sarajevo. U radu je korištena retrospektivna deskriptivno-statistička metoda, a od podataka korišteni su: podaci o morbiditetu registrovani u primarnoj zdravstvenoj zaštiti na području Kantona Sarajevo i podaci o mortalitetu Federalnog zavoda za statistiku.

Rezultati pokazuju da su hipertenzivna oboljenja, pored oboljenja gornjih respiratornih puteva, vodeća oboljenja u morbiditetu stanovništva Kantona Sarajevo (10,95%), a da su oboljenja cirkulatornog sistema vodeći uzrok smrtnosti stanovništva Kantona Sarajevo (41,69%). Od ovih oboljenja žene više umiru (53,78%) u odnosu na muškarce (46,22%), ali u dobnoj skupni ispod 65 godina života umire više muškaraca (69,71%) od oboljenja cirkulatornog sistema u odnosu na žene (30,29%). Vodeći uzroci smrtnosti žena u Kantonu Sarajevo od oboljenja cirkulatornog sistema su moždani udar i hronična ishemična oboljenja srca, dok su kod muškaraca moždani udar i akutni infarkt miokarda.

Ključne riječi: hronične masovne nezarazne bolesti, oboljenja cirkulatornog sistema, vodeća oboljenja, vodeći uzroci smrtnosti