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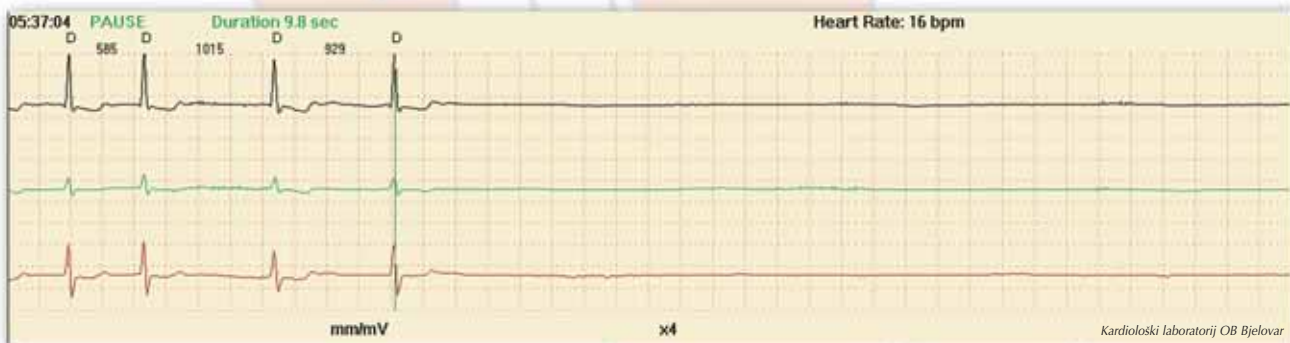
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## Javnozdravstveni značaj kardiovaskularnih bolesti

## Cardiovascular diseases as an important public health problem

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**K**ardiovaskularne bolesti, kao vodeći uzrok smrti u suvremenom svijetu, sa značajnim udjelom u prijevremenom umiranju, morbiditetu i dizabilitetu stanovništva, važan su javnozdravstveni problem, kako u svijetu tako i u Hrvatskoj. Na razini Europe odgovorne su za 4,3 milijuna smrti godišnje, odnosno 48% svih smrti (54% smrti u žena i 43% smrti u muškaraca), a u zemljama Europske unije odgovorne su za 42% smrti. Prema podacima europske statistike o kardiovaskularnim bolestima one su vodeći uzrok smrti u žena u svim zemljama Europe, i u muškaraca također, osim u Francuskoj, Nizozemskoj i Španjolskoj. Nešto manje od polovine smrti od kardiovaskularnih bolesti uzrokovano je ishemijskim bolestima srca, a oko trećine cerebrovaskularnim bolestima. Kardiovaskularne bolesti su i vodeći uzrok smrti u dobi do 65 godina na razini Europe (31% smrti u muškaraca i 29% smrti u žena do 65 godine), dok su u zemljama EU na drugom mjestu s udjelom od 24%, iza novotvorina s udjelom od 35%. U većini zemalja sjeverne, zapadne i južne Europe mortalitet, incidencija i letalitet od kardiovaskularnih bolesti opadaju zadnjih

**C**ardiovascular diseases being a major death cause in the modern world, considerably causing premature dying, morbidity and disability of the population, is an important public health problem not only in the world, but also in Croatia. At the level of Europe, there are responsible for 4.3 million of deaths on an annual basis, that is, 48% of all deaths (54% deaths in women and 43% deaths in men), and in the European Union states, they are responsible for 42% of deaths. According to the data obtained from the European statistics on cardiovascular diseases, they are the major death cause in women in all European countries and men as well, except in France, Netherlands and Spain. Somewhat less than a half of deaths caused by cardiovascular diseases was caused by ischemic heart diseases and around one third by cerebrovascular diseases. Cardiovascular diseases are the major cause of death in people aged 65 at the level of Europe (31% deaths in men and 29% deaths in women aged 65), while in the European Union states, they take the second place causing 24% of deaths, after tumors, causing 35% of a deaths. In the most western and southern European countries, mortality, incidence and lethality of cardiovascular diseases have dropped in the last thirty years, while in the central and



tridesetak godina, dok u zemljama srednje i istočne Europe još uvijek rastu ili stagniraju.

I u Hrvatskoj su kardiovaskularne bolesti vodeći uzrok smrti s udjelom od 50,6% u ukupnom mortalitetu 2007. godine. Uzrok su smrti 57,9% umrlih žena i 43,4% umrlih muškaraca. U 2007. godini od kardiovaskularnih bolesti umrlo je 26 506 osoba, a od toga u dobi 0-64 godine 3 026 osobe ili 11,4% umrlih zbog bolesti srca i krvnih žila, (5,1% u žena i 19,8% u muškaraca), a u dobi 65 i više godina 23 480 osobe, odnosno 88,6% (94,9% u žena i 80,2% u muškaraca). Opća stopa smrtnosti od kardiovaskularnih bolesti ukupno iznosila je 597,3/100.000, u žena je stopa smrtnosti bila 655,6/100.000, a u muškaraca 534,5/100.000. Vodeće dijagnostičke skupine bile su ishemijska bolest srca s udjelom od 36,5% (9 676 umrlih) i cerebrovaskularne bolesti s udjelom od 31,4 % (8 323 umrlih) u ukupnom broju umrlih od bolesti srca i krvnih žila (tablica 1).

**Table 1.**  
CVD deaths by diagnostic group and sex, Croatia 2007

DIAGNOSES	Female		Male	
	Number	Rate/100.000	Number	Rate/100.000
Ischaemic heart disease	5 086	221,0	4 590	214,9
- Acute myocardial infarction	1 526	66,3	2 281	106,8
- Chronic ischaemic heart disease	3 483	151,3	2 181	102,1
Cerebrovascular disease	4 905	213,1	3 418	160,0
Heart failure	1 922	83,5	1 131	53,0
Atherosclerosis	654	28,4	304	14,2
Hypertensive disease	853	37,1	421	19,7
<b>Cardiovascular disease total</b>	<b>15 089</b>	<b>655,6</b>	<b>11 417</b>	<b>534,5</b>

Source: National Bureau of Statistics; elaborated by Croatian National Institute of Public Health

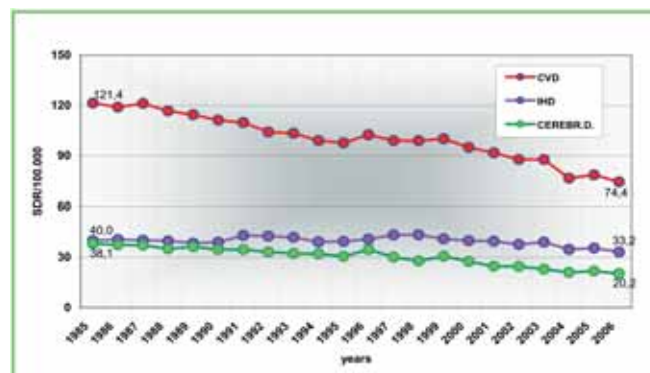
Analizirajući kretanje standardizirane stope smrtnosti za bolesti srca i krvnih žila od 1990. godine, stopa oscilira do 2000. godine, od kada se uočava pad smrtnosti, što je izraženije za cerebrovaskularne bolesti nego za ishemijsku bolest. Za dob 0-64 godine prisutan je trend pada smrtnosti za kardiovaskularne bolesti ukupno (1990. godine 111,3; 2000. godine 95,0; zadnje dostupne 2006. godine 74,4/100.000), posebice za cerebrovaskularne bolesti (1990. godine 34,6; 2000. godine 27,5/100.000; 2006. godine 20,2/100.000), dok je za ishemijsku bolest srca došlo do manjeg smanjenja smrtnosti (1990. god. 38,6; 2000. god. 39,9/100.000; 2006. godine 33,2/100.000) (slika 1).

eastern European countries they are rising or have remained at the same level.

Even in Croatia, cardiovascular diseases are a major cause of death, causing 50.6% of deaths in the entire mortality for the year 2007. They are the cause of death for 57.9% women and 43.4% men. During the year 2007, there were those 26 506 persons died of cardiovascular diseases, out of them aged from 0-64, whereas 3 026 persons or 11.4% persons died of heart or blood vessel diseases, (5.1% in women and 19.8% in men), and with people aged 65 and over there were 23 480 persons who died, that is, 88.6% (94.9% in women and 80.2% in men). The general death rate of cardiovascular diseases totaled to 597.3/100.000, in women the death rate was 655.6/100.000, and in men 534.5/100.000. The major diagnostic groups were the ischemic heart diseases causing death of 36.5% (9 676 persons) and cerebrovascular diseases causing death of 31.4% (8 323 persons) in the entire number of people who died of heart disease and blood vessel diseases (Table 1).

Analyzing the movement of standardized mortality rate with respect to heart diseases and blood vessel diseases since 1990, this rate was oscillating till the year 2000, since when the mortality rate started to drop, which is more characteristic for cerebrovascular diseases than the ischemic diseases. As regards the age from 0-64 there is a falling death trend with respect to cardiovascular diseases, totaling to (in 1990 - 111.3, in 2000 - 95.0 and during the last accessible year 2006 - 74.4/100.000), especially with regard to cerebrovascular diseases (in 1990 - 34.6, in 2000 - 27.5/100.000, in 2006 - 20.2/100.000), while regarding the ischemic heart disease the mortality rate has dropped (in 1990 - 38.6, and in 2000 - 39.9/100.000, and in 2006 - 33.2/100.000) (Figure 1).

**Figure 1.**  
Age-standardized mortality rates for cardiovascular diseases for the 0-64 age group in Croatia, 1985-2006



Source: WHO, Health for All, 2007.



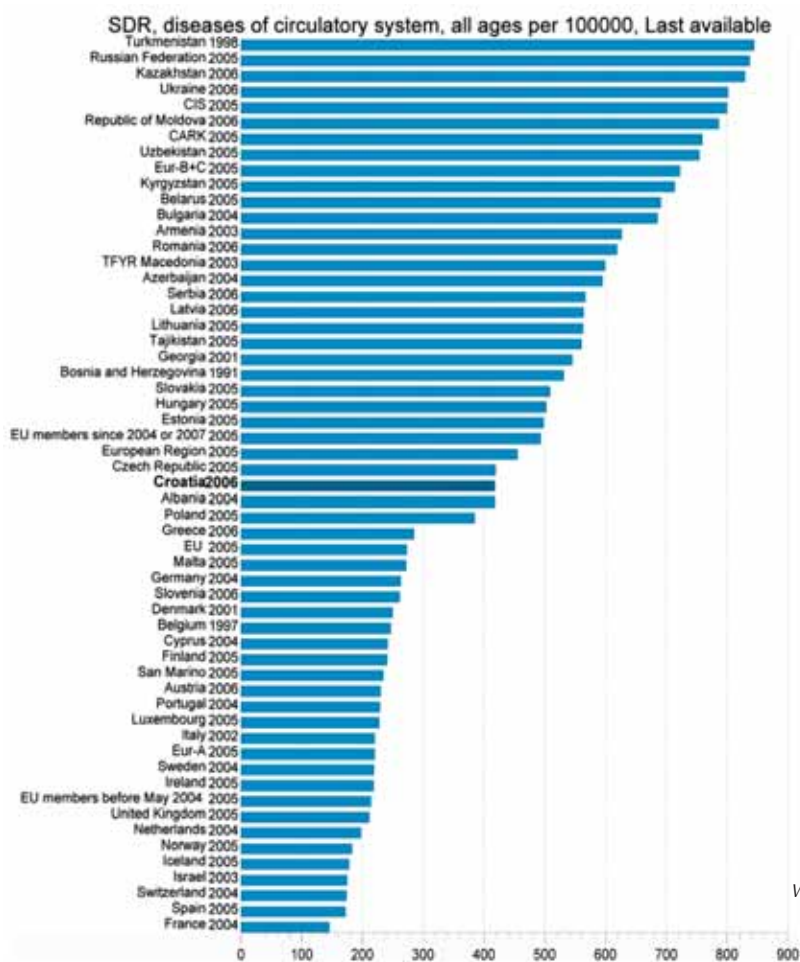


Po mortalitetu od bolesti srca i krvnih žila Hrvatska sa standardiziranom stopom smrtnosti od 417,7/100.000 spada među zemlje u Europi koje imaju srednje visoke stope smrtnosti (slika 2). Prosjek za zemlje Europske regije iznosi 455,2/100.000, za zemlje EU 25 272,7/100.000, za zemlje članice EU koje su pristupile od 2004. godine 493,1/100.000, a raspon stopa za EU 25 je od 145-685/100.000. Zemlje istočne Europe imaju uglavnom više stope smrtnosti od Hrvatske, dok Ruska Federacija ima dvostruko višu stopu smrtnosti (837/100.000), a zemlje zapadne i južne (mediteranske) Europe imaju znatno niže stope smrtnosti od Hrvatske sa stalnim trendom smanjenja (slika 2). U dobi do 65 godina kardiovaskularne bolesti su na drugom mjestu s udjelom od 27,9% u ukupnom mortalitetu te dobi (29,6% smrti u muškaraca i 23,9% smrti u žena do 65 godine), iza novotvorina s udjelom od 36,3%.

According to mortality of heart and blood vessel diseases, Croatia is with the standardized rate of 417.7/100.000 one of the European countries that has a medium high mortality rate (Figure 2). The average rate for the European countries is 455.2/100.000, for the EU-25 it is 25 272.7/100.000, for the European Union state members who accessed the EU since 2004 it is 493.1/100.000, and the range of rates for the EU 25 is from 145-685/100.000. The eastern European countries usually show a higher mortality rate than Croatia, while the Russian Federation shows a double high mortality rate (837/100.000), and the western and southern European states (Mediterranean countries) show a significantly lower mortality rate than Croatia with a continuous falling trend (Figure 2). In people aged 65, cardiovascular diseases take the second place causing death for 27.9% regarding the total mortality of people of

**Figure 2.**

Age-standardized mortality rates for cardiovascular diseases for all ages in the European countries



Source:

WHO, Health for All, 2007.

U bolničkom morbiditetu kardiovaskularne bolesti se 2007. godine nalaze na drugom mjestu po broju hospitalizacija (85 437) s udjelom od 13,4%, iza novotvorina (91 520) s udjelom od 14,4, Stopa hospitalizacija iznosila je 1925/100.000 stanovnika, u muškaraca 2123,4/100.000, a u žena 1741,6/100.000. Najčešći uzroci hospitalizacija bile su ostali oblici srčane bolesti (27,6%) s najčešćom dijagnozom kardiomiopatije, ishemijska bolest s udjelom od 24,4 %, te cerebrovaskularne bolesti s udjelom od 22,1% u skupini kardiovaskularnih bolesti (tablica 2).

that age (29.6% death in men and 23.9% death in women up to 65 years of age), following tumors causing death for 36,3% of people.

With regard to hospital morbidity, cardiovascular diseases did in 2007 take the second place according to a number of hospitalizations (85 437; 13.4% of all hospitalizations), after tumors (91 520; 14.4% of all hospitalizations). The hospitalization rate was 1925/100.000 of inhabitants, in men 2123.4/100.000, and in women 1741.6/100.000. The major causes of hospitalizations were some other types of heart diseases (27.6%) most frequently ha-



**Table 2.**  
CVD hospitalizations by  
diagnostic group and sex,  
Croatia 2007

Diagnoses	Female		Male	
	Number	Rate/ 100,000	Number	Rate/ 100,000
Hypertensive diseases	3 825	166,2	2 625	122,8
Ischaemic diseases	7 667	333,1	13 195	617,8
-Acute myocardial infarction	2 420	105,1	4 000	187,3
-Chronic ischaemic heart diseases	1 730	75,2	3 230	151,2
Heart failure	2 457	106,8	2 145	100,4
Cerebrovascular diseases	9 607	417,4	9 286	434,8
Atherosclerosis	1 216	52,8	2 128	99,6
<b>Cardiovascular diseases total</b>	<b>40 083</b>	<b>1741,6</b>	<b>45 354</b>	<b>2123,4</b>

Source:  
Croatian National Institute of  
Public Health

Budući su kardiovaskularne bolesti vodeći uzrok umiranja i bolničkog liječenja u Hrvatskoj, te predstavljaju prioritetni zdravstveni problem, Ministarstvo zdravstva Republike Hrvatske donijelo je u rujnu 2001. godine *Nacionalni program prevencije kardiovaskularnih bolesti*. Međutim, nakon donošenja Programa nije bio izrađen provedbeni plan, pa nije došlo do njegovog sustavnog provođenja, iako su se neke od predloženih aktivnosti provodile. Stoga treba što prije prići implementaciji Nacionalnog programa prevencije kardiovaskularnih bolesti i intenzivirati rad na programima prevencije i promicanja zdravlja uključujući usvajanje zdravijeg načina života, skrb za osobe pod povećanim rizikom, rano otkrivanje bolesti, suvremene učinkovite dijagnostičke i terapijske postupke te rehabilitaciju oboljelih, što je u skladu i s preporukama Europske povele o zdravlju srca.

Naime, iako u EU opadaju stope smrtnosti od kardiovaskularnih bolesti, raste broj muškaraca i žena koji žive s tim bolestima. Ovaj paradoks je u vezi s dužim očekivanim trajanjem života i boljim preživljenjem ljudi s bolestima srca i krvnih žila. Tako da su one i dalje vodeći uzrok smrti u žena i muškaraca u Europi. Stoga su Europsko kardiološko društvo i Europska mreža za srce, uz podršku Europske komisije i Svjetske zdravstvene organizacije — regionalnog ureda za Europu, pripremili i objavili prvu Europsku povelju o zdravlju srca s ciljem prevencije kardiovaskularnih bolesti u Europi. Povelja je objavljena u Europskom parlamentu u Brüsselsu u lipnju 2007. godine. U skladu s Poveljom, Europsko kardiološko društvo i Europska mreža za srce s ostalim potpisnicima pozivaju sve međunarodne organizacije i vlade država da usvoje Europsku povelju o zdravlju srca s ciljem promicanja zdravlja srca i podrže Deklaraciju sv. Valentina od 2000. godine, koja kaže:

**“Svako dijete rođeno u novom mileniju ima pravo živjeti najmanje do dobi od 65 godina bez kardiovaskularnih bolesti koje se mogu spriječiti”.**

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ving the diagnosis of cardiomyopathy, ischemic heart diseases (24,4%) and cerebrovascular diseases (22.1%) in the group of cardiovascular diseases (Table 2).

Since the cardiovascular diseases are the major cause of dying and hospital treatment in Croatia and pose a priority health problem, the Ministry of Health did in September 2001 enact the *National Cardiovascular Diseases Prevention Program*. However, the enactment of the Program was not followed by the implementation plan, so its systematic implementation was not performed, although there were some suggested actions that were carried out. This is the reason why the implementation of the National Cardiovascular Diseases Prevention Program needs to be initiated as soon as possible and the work on prevention programs and health promotion programs should be intensified including accepting a healthier way of life, care for the people belonging to a higher risk group, early diagnosing of a disease, modern efficient diagnostic and therapy procedures and rehabilitation of the diseased, which is in compliance with the recommendations of the European Heart Health Charter.

Namely, although mortality rates of cardiovascular diseases are falling in the EU, we are witnessing an increasing number of women and men who are suffering from such diseases. This paradox is connected with longer life expectancy and a better survival of people suffering from heart and blood vessel diseases. So, they are still a major cause of death in women and men in Europe. Therefore, the European Society of Cardiology and European Heart Network, supported by the European Commission and World Health Organization — Regional Office for Europe, have prepared and publicized the first European Heart Health Charter aimed at prevention of cardiovascular diseases in Europe. The Charter has been publicized in the European Parliament in Brussels in June 2007. In accordance with the Charter, the European Society of Cardiology and European Heart Network along with other signatories invite all international organizations and state governments to adopt the European Heart Health Charter aimed at promoting heart health and to support the St. Valentine's Charter of 2000 that reads:

**“Every child born in the new millennium is entitled to living minimum up to 65 with no cardiovascular diseases that may be prevented”.**