

Izvorni znanstveni članak / Original scientific paper

# Mortalitet i morbiditet od kardiovaskularnih bolesti

## *Morbidity and mortality from cardiovascular diseases*

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**SAŽETAK:** Prema podacima Svjetske zdravstvene organizacije kardiovaskularne bolesti (KVB) uzrok su smrti 17,3 milijuna ljudi na razini svijeta, odnosno 30% ukupne smrtnosti, a na razini Europe odgovorne su za 47% svih smrti. U Hrvatskoj su također vodeći uzrok smrti s udjelom od 48,3% u ukupnom mortalitetu 2012. godine. Uzrok su smrti u 54,5% umrlih žena i 42,1% umrlih muškaraca. U bolničkom morbiditetu KVB su godinama na prvom ili drugom mjestu po broju hospitalizacija, izmjenjujući se s malignim bolestima. Stope hospitalizacija za KVB rastu s dobi i više su u muškaraca nego u žena u svim dobnim skupinama. Intenzivniji porast bolničkog morbiditeta počinje u dobi iznad 40 godina, desetak godina ranije od porasta smrtnosti. Posljednjih deset godina uočava se kontinuirani trend smanjenja smrtnosti zbog KVB, što je izraženije za cerebrovaskularne bolesti, nego za ishemijsku bolest srca i to osobito za dob od 0 do 64 godine, no one su i dalje vodeći uzrok smrtnosti i pobola.

**KLJUČNE RIJEČI:** kardiovaskularne bolesti, mortalitet, morbiditet.

**SUMMARY:** According to the data provided by World Health Organization, the cardiovascular diseases (CVD) are the cause of death of 17.3 million of people at an international level, or 30% of total mortality, whereas they account for 47% of all deaths at the European level. Even in Croatia, they are the major cause of death, accounting for 48.3% of total mortality in 2012. They are the cause of death of 54.5% of dead women and 42.1% of dead men. In hospital morbidity, CVDs have held the first or second place in the number of hospitalizations for years, alternating with malignant diseases. Hospitalization rates for CVD rise with age and are higher in men than in women in all age groups. Intense rise in hospital morbidity begins at the age of 40, ten years earlier than the rise in mortality. The period of the last ten years shows a continuing downward trend in mortality caused by CVD, which is more pronounced for cerebrovascular diseases, than for ischemic heart disease and especially for the age from 0 to 64, but they are still the major cause of mortality and morbidity.

**KEYWORDS:** cardiovascular diseases, mortality, morbidity.

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### Kardiovaskularne bolesti — globalni javnozdravstveni problem

Kardiovaskularne bolesti (KVB) su vodeće nezarazne bolesti, odgovorne za gotovo polovinu smrtnosti od nezaraznih bolesti. Prema podacima Svjetske zdravstvene organizacije, 2008. godine KVB su bile uzrok smrti 17,3 milijuna ljudi na razini svijeta (30% sveukupne smrtnosti), od toga, 7,3 milijuna smrti od ishemijskih bolesti srca, a 6,2 milijuna od cerebrovaskularnih bolesti. Više od 3 milijuna tih smrti bilo je u dobi do 60 godina. Udio prijevremenih smrti od KVB varira od 4% u visoko dohodovnim zemljama do 42% u nisko dohodovnim zemljama. Procjenjuje se da će do 2030. godine umirati 23,6 milijuna ljudi zbog KVB<sup>1,2</sup>. Prema Svjetskoj kardiološkoj federaciji KVB su odgovorne za 10% opterećenja bolestima izraženo pokazateljem DALYs (u čiji izračun ulaze izgubljene godine života radi prijevremenog umiranja i godine onesposobljenosti uslijed bolesti) u nisko dohodovnim zemljama i za oko 18% DALYs u visoko dohodovnim zemljama<sup>3</sup>. Pokazatelj izgubljene godine života (YLL) zbog

### Cardiovascular disease — a global public health problem

Cardiovascular diseases (CVD) are the major non-communicable diseases accountable for nearly a half of deaths from non-communicable diseases. According to the data of the World Health Organization (WHO), in 2008 the CVDs were the cause of death of 17.3 million of people at an international level (30% of all deaths), of whom 7.3 million of deaths were caused by ischemic heart disease and 6.2 million of deaths were caused by cerebrovascular diseases. More than 3 million of these deaths occurred at the age up to 60 years of age. The frequency of premature deaths from CVDs ranges from 4% in high-income countries to 42% in low-income countries. It is estimated that by the year 2030, some 23.6 million of people will die from CVD<sup>1,2</sup>. According to the World Heart Federation, CVD accounts for 10% of burden of diseases expressed by the indicator DALYs (disability adjusted life years — which includes years of life lost due to premature death and disability due to the disease) in low-income countries, and for about 18% of DALYs in high-income countries<sup>3</sup>. The indicator of years of life lost (YLL)

KVB četiri je puta viši u nisko dohodovnim zemljama te dva puta viši u srednje dohodovnim zemljama nego što je to u visoko dohodovnim zemljama<sup>4</sup>.

Na razini Europe KVB su odgovorne za nešto više od 4 milijuna smrti godišnje, odnosno 47% svih smrti (52% smrti u žena i 42% smrti u muškaraca), a u zemljama Europske Unije (EU) odgovorne su za 40% smrti (43% smrti u žena i 36% smrti u muškaraca). Prema podacima europske statistike o KVB one su vodeći uzrok smrti u žena u svim zemljama Europe te u muškaraca također, osim u šest zemalja (Francuska, Izrael, Nizozemska, San Marino, Slovenija i Španjolska). Nešto manje od polovine smrti od KVB uzrokovano je ishemijskim bolestima srca u muškaraca i žena, a oko trećine cerebrovaskularnim bolestima u žena i četvrtine u muškaraca. KVB su i vodeći uzrok smrti u dobi do 65 godina na razini Europe (31% smrti u muškaraca i 26% smrti u žena do 65 godine), dok su u zemljama EU na drugom mjestu s udjelom od 22%, iza novotvorina s 36%. Stope smrtnosti od KVB više su u zemljama srednje i istočne Europe, nego u zemljama zapadne, sjeverne i južne Europe. U većini zemalja sjeverne, zapadne i južne Europe mortalitet, incidencija i letalitet od KVB opadaju zadnjih tridesetak godina, dok u nekim zemljama srednje i istočne Europe još uvijek rastu, a u nekima stagniraju i počinju opadati<sup>5</sup>.

## Epidemiološki prikaz kardiovaskularnih bolesti u Hrvatskoj

U Hrvatskoj su KVB također vodeći uzrok smrti s udjelom od 48,3% u ukupnom mortalitetu 2012. godine. U 2012. godini umrlo je 24.988 osoba od KVB, a od toga 14.133 žena i 10.855 muškarca. One su uzrok smrti u 54,5% umrlih žena i 42,1% umrlih muškaraca. U dobnoj skupini do 65 godina KVB drugi su uzrok smrtnosti s 2.702 umrlih, odnosno udjelom od 26,6% u mortalitetu te dobne skupine. Na prvom mjestu uzrok smrtnosti u toj dobi su maligne bolesti s 4.056 umrlih, odnosno udjelom od 40,0%<sup>6</sup>. U toj dobnoj skupini KVB uzrok su smrti u 21,7% umrlih žena (650 žena) i 28,7% umrlih muškaraca (2.052 muškaraca), što pokazuje da u mlađoj dobi umire više muškaraca, a starijoj dobi više žena od KVB.

Najčešće dijagnostičke podskupine kao uzrok smrti su ishemijske bolesti srca s udjelom od 22,2% (11.464 umrle osobe) i cerebrovaskularne bolesti s udjelom od 14,1% (7.291 umrlih osoba) u ukupnom mortalitetu, zatim slijede srčana

caused by CVD is four times higher in low-income countries, and two times higher in the middle-income countries than in high-income countries<sup>4</sup>.

At the European level, CVD accounts for more than 4 million of deaths on an annual basis, or 47% of all deaths (52% of deaths in women and 42% of deaths in men), and in the European Union (EU) states they account for 40% of deaths (43% of deaths in women and 36% of deaths in men). According to the European statistics on CVD, they are the major cause of deaths in women in all European countries and also in men, except in six countries (France, Israel, Netherlands, San Marino, Slovenia and Spain). Slightly less than a half of the deaths from CVDs are caused by ischemic heart diseases in men and women, about one third of deaths is caused by cerebrovascular diseases in women and one quarter of deaths is caused by cerebrovascular diseases in men. CVDs are the major cause of death up to 65 years of age at the European level (31% of deaths in men and 26% of deaths in women up to 65 years of age), while in the EU states they take the second place with a proportion of 22% being ranked behind the neoplasm with a proportion of 36%. The rates of mortality from CVD are higher in the Central and Eastern European countries than in the western, northern and southern European countries. In the most of the northern, western and southern European countries, mortality, incidence and lethality of CVDs have declined over the past thirty years, and in some central and eastern European countries they are still rising, while in some other countries they stagnate and begin to decline<sup>5</sup>.

## Epidemiological presentation of cardiovascular diseases in Croatia

Even in Croatia, CVD is the major cause of death, accounting for 48.3% of total mortality in 2012. In 2012, 24,988 persons died of CVD of whom 14,133 women and 10,855 men. They are the cause of death of 54.5% of dead women and 42.1% of dead men. In the age group up to 65 years, CVD is the second cause of mortality with 2,702 deaths, or with a frequency of 26.6% in the mortality of this age group. Malignant diseases with 4,056 dead persons, or with a frequency of 40.0% are ranked the first cause of death in this age group.<sup>6</sup> In this age group CVDs are the cause of death in 21.7% of dead women (650 women) and 28.7% of dead men (2,052 men), which shows that more men die at a younger age and more women die from CVD at an older age.

The most common diagnostic subgroups as the cause of death are ischemic heart diseases with a proportion of

	ICD-10 CODE	DIAGNOSIS	No	%
<p><b>Table 1.</b> 10 leading causes of death and their respective shares — total, Croatia 2012.</p> <p><i>Source: Croatian Central Bureau of Statistics, Croatian National Institute of Public Health.</i></p>	I20-I25	Ischaemic heart diseases	11.464	22,17
	I60-I69	Cerebrovascular diseases	7.291	14,10
	C33-C34	Malignant neoplasms of trachea, bronchus and lung	2.790	5,40
	C18-C21	Malignant neoplasms of colon, rectum and anus	2.006	3,88
	J40-J47	Chronic lower respiratory diseases	1.656	3,20
	I50	Heart failure	1.555	3,01
	I10-I15	Hypertensive diseases	1.545	2,99
	E10-E14	Diabetes mellitus	1.330	2,57
	K70,K73-K74	Chronic liver diseases, fibrosis and cirrhosis	1.084	2,10
	C50	Malignant neoplasm of breast	1.048	2,03
		First 10 causes		31.769
	Total		31.710	—

insuficijencija s 1.555 umrlih osoba (3,0%) i hipertenzija s 1.545 umrlih (3,0%) (Tablica 1).

Analiza smrtnosti prema dobi u muškaraca i žena pokazuje da dobno-specifične stope smrtnosti za KVB rastu s dobi i više su u muškaraca nego u žena u svim dobnim skupinama. Intenzivniji porast smrtnosti počinje u dobi iznad 50 godina<sup>7</sup>. U dobi iznad 65 godina bilježi se 89,2% umrlih od KVB (81,1% muškaraca i 95,4% žena). U dobi 40-64 godina je 10,4% umrlih (18,2% muškaraca i 4,4% žena), u dobi 20-39 godina 0,4% (0,7% muškaraca i 0,2% žena) te u dobi 0-19 godina 0,02% umrlih (0,03% muškaraca i 0,02% žena) (Tablica 2). Međutim, u izračunu stope smrtnosti po spolu, veća zastupljenost žena u starijim dobnim skupinama, kao i veći broj umrlih žena, rezultira višom ukupnom stopom smrtnosti od KVB u žena nego u muškaraca<sup>5</sup>. Tako je opća stopa smrtnosti od KVB ukupno iznosila u 2012. godini 585,5/100.000, u žena je stopa smrtnosti bila 639,8/100.000, a u muškaraca 527,3/100.000.

22.7% (11,464 dead persons) and cerebrovascular diseases with a proportion of 14.1% (7,291 dead persons) in total mortality, followed by heart failure, with 1,555 dead persons (3.0%) and hypertension with 1,545 dead persons (3.0%) (Table 1).

The analysis of mortality by age in men and women shows that age-specific mortality rates for CVD rise with age and are higher in men than in women in all age groups. An intense rise in mortality begins at the age of 50<sup>7</sup>. 89.2% of persons who died of CVD are recorded to be at the age over 65 (81.1% men and 95.4% women). At the age of 40 to 64 there were 10.4% of dead persons (18.2% of men and 4.4% of women), at the age from 20 to 39 there were 0.4% of dead persons (0.7% for men and 0.2% of women) and at the age from 0 to 19 there were 0.02% of dead persons (0.03% of men and 0.02% of women) (Table 2). However, in the calculation of mortality rates by gender, the greater representation of women in the older age groups, as well as the increasing number of dead women results in a higher overall mortality rate from CVD in women than in men<sup>5</sup>. Thus, the overall mortality rate from CVD totaled to 585.5/100,000 in 2012, and the mortality rate was 639.8/100,000 in women and the mortality rate was 527.3/100,000 in men.

Table 2.

Cardiovascular diseases mortality by age and sex in Croatia, 2012.

Age group	Total		Male		Female	
	No.	%	No.	%	No.	%
0-19	6	0,02	3	0,03	3	0,02
20-39	97	0,40	72	0,70	25	0,20
40-64	2.599	10,40	1.977	18,20	622	4,40
65+	22.286	89,20	8.803	81,10	13.483	95,40
<b>Total</b>	<b>24.988</b>	<b>100,0</b>	<b>10.855</b>	<b>100,0</b>	<b>14.133</b>	<b>100,0</b>

Source: Croatian Central Bureau of Statistics, Croatian National Institute of Public Health.

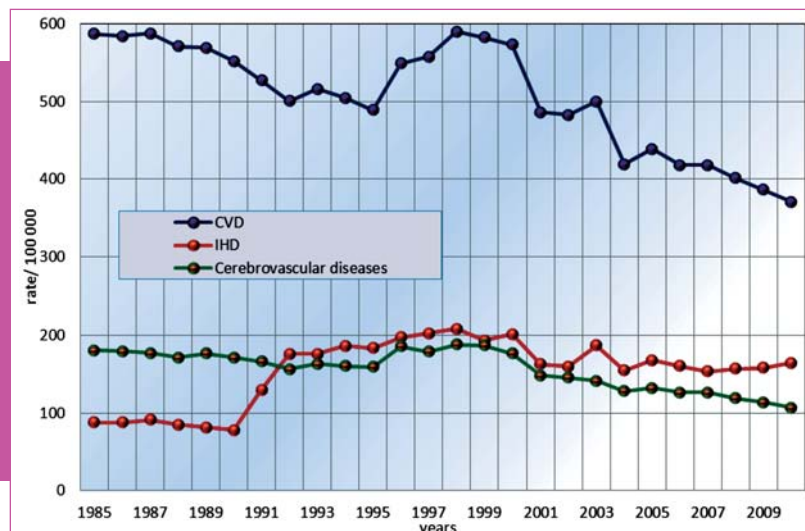
Analizirajući kretanje mortaliteta od KVB uočava se trend smanjenja smrtnosti posljednjih deset godina, što je izraženije za cerebrovaskularne bolesti, nego za ishemijsku bolest srca i to osobito za dob 0-64 godine<sup>8</sup>. Dobno standardizirana stopa smrtnosti od KVB ukupno u Hrvatskoj 2000. godine iznosila je 572,7/100.000, a do 2011. godine pala je na 370,8/100.000, što je pad smrtnosti za 35,6%. Za ishemijsku bolest srca pad smrtnosti u tom razdoblju iznosi 18,3%, a za cerebrovaskularne bolesti 39,4% (Slika 1).

Analyzing CVD mortality trends, we have observed the falling mortality trend in the last ten years, which is more pronounced for cerebrovascular diseases than for ischemic heart disease, especially for the age between 0 and 64 years of age<sup>8</sup>. The age standardized mortality rate from CVD in Croatia totaled to 572.7/100,000 in 2000 and by the year 2011, it fell to 370.8/100,000, which is a fall in mortality by 35.6%. For ischemic heart disease, the fall in mortality during this period was 18.3%, and it was 39.4% for cerebrovascular diseases (Figure 1).

Figure 1.

Age standardized mortality rates for cardiovascular diseases for all ages in Croatia, 1985-2010.

CVD = cardiovascular diseases, IHD = ischaemic heart disease



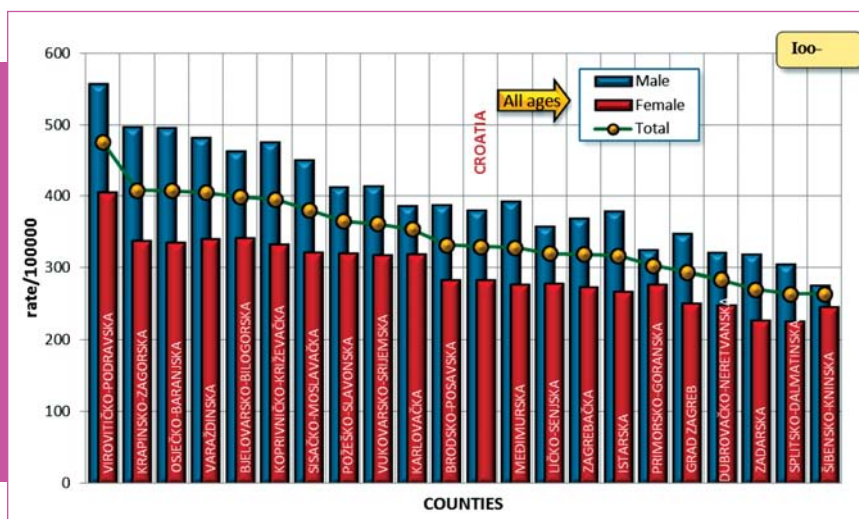
Source: WHO, Health for All, 2013.



U dobnj skupini do 64 godine pad smrtnosti za KVB iznosi 33% u tom razdoblju. Usporedi li se smrtnost od KVB po županijama, dobno-standardizirane stope smrtnosti kreću se u rasponu od najviše 475,4 u Virovitičko-podravskoj županiji do najniže 264,3/100.000 u Šibensko-kninskoj županiji. Uglavnom su stope smrtnosti od KVB više u kontinentalnom dijelu Hrvatske, a niže u priobalnom dijelu Hrvatske, uz izuzetak Grada Zagreba i Međimurske županije koji imaju nižu stopu smrtnosti kao i priobalne županije (Slika 2).

In the age group up to 64 years of age, the fall in mortality from CVD is 33% during this period. If we compare the mortality from CVD by counties, the age-standardized mortality rates are in the range of up to 475.4 in the Virovitica-Podravina County of up to the minimum of 264.3/100,000 in the Šibenik-Knin County. Basically the rates of death from CVD are higher in the continental part of Croatia, and lower in the Croatian coastal regions, except for the City of Zagreb and Međimurje County that have the mortality rate as low as in the coastal counties (Figure 2).

**Figure 2.**  
Age standardized mortality rates for cardiovascular diseases for all ages in Croatian counties, 2011.



Source: Croatian Central Bureau of Statistics, Croatian National Institute of Public Health.

U odnosu na druge europske zemlje Hrvatska sa standardiziranom stopom smrtnosti za KVB od 370,8/100.000 spada među zemlje u Europi koje imaju srednje visoke stope smrtnosti. Prosjek za zemlje EU "stare" članice prije 2004. iznosi 174,6/100.000, za zemlje članice EU koje su pristupile od 2004. godine 428,9/100.000. Susjedna Slovenija ima znatno nižu stopu smrtnosti od kardiovaskularnih bolesti 231,8, a Češka nešto nižu od Hrvatske 344/100.000. Zemlje Istočne Europe imaju uglavnom više stope smrtnosti od Hrvatske, a zemlje Zapadne i Južne (mediteranske) Europe imaju znatno niže stope smrtnosti od Hrvatske sa stalnim trendom smanjenja.

Compared to the other European countries, Croatia with the standardized mortality rate for CVD of 370.8/100,000 belongs to the countries in Europe that have medium-high mortality rates. The average for the EU "old" member states before the year 2004 is 174.6/100,000, for the EU member states that joined EU after the year 2004 is 428.9/100,000. The neighboring Slovenia has significantly lower mortality rate from cardiovascular diseases, it is 231.8, and the Czech Republic has slightly lower mortality rate than Croatia which is 344/100.000. The eastern European countries generally have higher rates of mortality than Croatia, and countries of western and southern (Mediterranean) Europe have significantly lower rates of death than Croatia with a continuous downward trend.

**Table 3.**  
Years of life lost (YLL) within age group 1-75 for the leading disease groups on the mortality scale in Croatia, 2011.

Disease group		No. of death	Rate/100 000	YLL
Cardiovascular diseases	<b>Total</b>	<b>24 841</b>	<b>579,7</b>	<b>67 832,5</b>
	Male	10 522	509,2	48 522,5
	Female	14 319	645,4	19 310,0
Neoplasms	<b>Total</b>	<b>13 861</b>	<b>323,5</b>	<b>98 688,0</b>
	Male	7 973	385,9	60 302,0
	Female	5 888	265,4	38 386,0
Injury	<b>Total</b>	<b>2 767</b>	<b>64,6</b>	<b>41 788,5</b>
	Male	1 703	82,4	33 359,5
	Female	1 064	48,0	8 429,0
Diseases of the digestive system	<b>Total</b>	<b>2 314</b>	<b>54,0</b>	<b>18 385,0</b>
	Male	1 431	69,3	14 462,5
	Female	883	39,8	3 922,5
Diseases of the respiratory system	<b>Total</b>	<b>2 052</b>	<b>47,9</b>	<b>6 332,0</b>
	Male	1 257	60,8	4 519,5
	Female	795	35,8	1 812,5

Source: Croatian Central Bureau of Statistics, Croatian National Institute of Public Health.

Prema broju izgubljenih godina života, pokazatelju prijevremenog umiranja (YLL), KVB su na drugom mjestu iza skupine novotvorina, sa 67.832 izgubljenih godina života te dvostruko većim brojem izgubljenih godina života u muškaraca nego u žena (**Tablica 3**).

U bolničkom morbiditetu KVB su godinama na prvom ili drugom mjestu po broju hospitalizacija, izmjenjujući se s malignim bolestima. U 2011. godini nalazile su se na prvom mjestu po broju hospitalizacija (83.935) s udjelom od 14,2%, od toga su 46,7% hospitalizacije žena i 53,3% hospitalizacije muškaraca. Međutim, analiza prema spolu pokazuje da su u muškaraca KVB na prvom mjestu po broju hospitalizacija s udjelom od 15,5%, a kod žena su na drugom mjestu s udjelom od 12,9%, iza novotvorina čiji je udio 13,7% u ukupnom broju hospitalizacija žena. Ukupna stopa hospitalizacija iznosila je 1.958,9/100.000 stanovnika, u muškaraca 2.165,1/100.000, a u žena 1.766,8/100.000<sup>7</sup>. Analiza bolničkog pobola prema dobi pokazuje da kako u muškaraca tako i žena, stope hospitalizacija za KVB rastu s dobi i više su u muškaraca nego u žena u svim dobnim skupinama. Intenzivniji porast bolničkog pobola počinje u dobi iznad 40 godina. Analizirajući bolnički morbiditet od KVB prema dobi, vidimo da je 62,5% hospitaliziranih u dobi iznad 65 godina (54,8% muškaraca i 71,4% žena). U dobi 35-64 godina je 34,1% hospitaliziranih (41,4% muškaraca i 25,8% žena), u dobi 20-34 godina 2,1% hospitaliziranih (2,2% muškaraca i 1,9% žena) te u dobi 0-19 godina 1,3% hospitaliziranih (1,6% muškaraca i 0,9% žena) (**Tablica 4**). Najčešći uzroci hospitalizacija bile su ishemijska bolest srca s udjelom od 26,5%, (najčešće angina pectoris, infarkt miokarda), podskupina ostali oblici srčane bolesti 26,3% s najčešćom dijagnozom srčane insuficijencije i kardiomiopatije te cerebrovaskularne bolesti s udjelom od 21,5 % u skupini KVB<sup>10</sup>.

According to a number of years of life lost which is the indicator of premature mortality (YLL), CVDs take the second place behind the group of neoplasms, with 67,832 years of life lost and twice as many years of life lost in men than in women (**Table 3**).

In hospital morbidity, CVD have held the first or second place in the number of hospitalizations for years, alternating with malignant diseases. In 2011, they took the first place in the number of hospitalizations (83,935) with a proportion of 14.2% of which 46.7% of hospitalizations have been recorded in women and 53.3 % have been recorded in men. However, the analysis by gender shows that CVDs take the first place in men in the number of hospitalizations with a proportion of 15.5%, and among women they take the second place with a proportion of 12.9% followed by neoplasm accounting for 13.7% in the total number of hospitalizations of women. The overall rate of hospitalization was 1,958.9/100,000 inhabitants, in men it was 2,165.1/100,000 and in women it was 1,766.8/100,000<sup>7</sup>. The analysis of hospital morbidity by age shows that both the rates of hospitalization for CVD in men and women rise with age and are higher in men than in women in all age groups. An intense rise in hospital morbidity begins at the age over 40. Analyzing hospital morbidity from CVD by age, we can see that 62.5% of hospitalized patients are aged over 65 (54.8% of men and 71.4% of women). At the age from 35 to 64 there were 34.1% of hospitalized patients (41.4% were men and 25.8% were women), at the age from 20 to 34 there were 2.1% of hospitalized patients (2.2% of men and 1.9% of women) and from the age from 0 to 19 there were 1.3% of hospitalized patients (1.6% of men and 0.9% of women) (**Table 4**). The most common causes of hospitalization were ischemic heart disease with a frequency of 26.5% (usually angina pectoris, myocardial infarction), the subgroup of other forms of cardiac diseases accounting for 26.3% with the most common diagnosis of heart failure and cardiomyopathy and cerebrovascular diseases with a frequency of 21.5% in the group of CVDs<sup>10</sup>.

Age group	Total		Male		Female	
	No.	%	No.	%	No.	%
<b>0-19</b>	1.071	1,3	711	1,6	360	0,9
<b>20-34</b>	1.731	2,1	996	2,2	735	1,9
<b>35-64</b>	28 654	34,1	18 526	41,4	10 128	25,8
<b>65+</b>	52 469	62,5	24 500	54,8	27 969	71,4
<b>Unknown</b>	10	0,01	5	0,01	5	0,01
<b>Total</b>	<b>83 935</b>	<b>100,0</b>	<b>44 738</b>	<b>100,0</b>	<b>39 197</b>	<b>100,0</b>

**Table 4.**  
Cardiovascular diseases hospitalizations by age and sex in Croatia, 2011.

Source: Croatian National Institute of Public Health.

Prema broju bolno-opskrbenih dana (broj dana bolničkog liječenja) KVB su na drugom mjestu, iza duševnih bolesti i poremećaja s 864.699 dana bolničkog liječenja, odnosno udjelom od 14%. Vodeće dijagnostičke podskupine unutar grupe KVB prema broju dana bolničkog liječenja su skupina druge srčane bolesti s udjelom od 30,4%, zatim cerebrovaskularne bolesti s udjelom od 26,7%, i ishemijske bolesti srca s udjelom od 22%. Prosječna dužina liječenja za KVB ukupno iznosi 10,3 dana (9,7 za muškarce i 11,0 za žene) i raste s dobi. U dobi 0-19 godina prosječna dužina liječenja je 7,7 dana, a u dobi iznad 65 godina je 11,4 dana i dulja je u žena.

Po broju dijagnoza zabilježenih u općoj/obiteljskoj medicini 2011. godine KVB nalaze se na drugom mjestu s udjelom od 12% iza bolesti dišnog sustava čiji udio je iznosio 15%. Najčešćalija dijagnostička podskupina bile su hipertenzivne

According to a number of bed days (the number of days of treatment) the CVDs take the second place, falling behind mental illnesses and disorders with 864,699 days of hospital treatment, or a proportion of 14%. The major diagnostic subgroups within the group of CVDs according to the number of days of hospital treatment are the group of other cardiac diseases with a proportion of 30.4%, followed by cerebrovascular diseases that account for 26.7%, and ischemic heart diseases accounting for 22%. The average length of stay for CVD totals to 10.3 days (9.7 for men and 11.0 for women) and it rises with age. At the age from 0 to 19, the average length of stay was 7.7 days, and at the age over 65 it is 11.4 days and is longer in women.

Judging by the number of diagnoses recorded in the general/family medicine in 2011, the CVDs take the second place

bolesti s udjelom od 57,6% u skupini KVB. Slijedi podskupina druge srčane bolesti (15,7%), ishemijske bolesti (9,8%), bolesti vena (8,1%) te cerebrovaskularne bolesti s udjelom od 4,1% u skupini KVB<sup>11</sup>.

## Zaključak

Zadnjih desetak godina prisutan je trend smanjenja smrtnosti od KVB u Hrvatskoj, kao što je to već ranije zabilježeno u razvijenim zemljama svijeta, no one su i dalje vodeći uzrok smrtnosti i pobola. Iako u zemljama EU opadaju stope smrtnosti od KVB, raste broj ljudi koji žive s tim bolestima, što je u vezi s dužim očekivanim trajanjem života i boljim preživljenjem ljudi s bolestima srca i krvnih žila, ali i učinkovitijim preventivnim i terapijskim postupcima. Sve to rezultira većom prevalencijom KVB. Imajući u vidu starenje populacije, sveprisutnu globalizaciju i urbanizaciju, socioekonomsku situaciju, visoku prevalencije nekih čimbenika rizika kao što je pretilost i dijabetes, moguće je očekivati sve veće opterećenje KVB, ako se ne poduzmu sveobuhvatne mjere prevencije.

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with a frequency of 12% after respiratory diseases accounting for 15%. The most common diagnostic subgroups were hypertensive diseases with a frequency of 57.6% in the CVD group. They were followed by the subgroup of other cardiac diseases (15.7%), ischemic diseases (9.8%), vascular diseases (8.1%), and cerebrovascular disease with a portion of 4.1 % in the CVD group<sup>11</sup>.

## Conclusion

During the last ten years have seen a downward trend of mortality from CVDs in Croatia, as it has already been observed in the developed countries internationally, but they are still the major cause of mortality and morbidity. While the rates of mortality decline in the EU countries, the number of people living with such diseases rise. It is associated with better life expectancy and better survival of people with CVDs, but also with more effective preventive and therapeutic procedures. Consequently, we are facing higher prevalence of CVDs. Considering the fact that the population is getting older, considering ubiquitous globalization and urbanization, socio-economic situation, high prevalence of some risk factors such as obesity and diabetes, we can expect a growing burden of CVD, unless some comprehensive preventive measures are taken.