

ANALYSING THE MORTALITY ASSOCIATED WITH THE HEART DISEASES IN ORADEA MUNICIPALITY

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Cuvinte cheie: mortalitate, boli cardiovasculare, decese

Rezumat: Studiul răspândirii și implicațiile medicale ale bolilor cardiovasculare, a evoluției lor în timp, reprezintă modalitatea cea mai adecvată de stabilire a unor măsuri eficiente în prevenirea și combaterea acestor boli. Analiza mortalității cardiovasculare este indispensabilă studiului factorilor de risc, profilaxiei bolilor cardiovasculare, urmării corecte a bolnavilor și repartizării mijloacelor tehnice și logistice de luptă împotriva acestor boli. Au fost analizate decesele din municipiul Oradea în perioada 2003-2007. Evoluția mortalității prin boli cardiovasculare în perioada 2003-2007 în municipiul Oradea, este sub media pe județul Bihor și țară, mortalitatea fiind mai mare la sexul masculin și la grupa de vârstă de peste 65 de ani. Pe grupe mari de boli, mortalitatea prin cardiopatii ischemice deține primul loc. Vârsta medie la deces prin boli cardiovasculare (ani) prezintă valori cuprinse între 72,0 și 72,5 ani, de-a lungul perioadei studiate, cea mai mare valoare în anul 2005, iar cea mai mică în 2003.

Keywords: mortality, heart diseases, deceases

Abstract: The study of the prevalence and the medical implications of heart diseases, and of their evolution in time, represents the best way of taking efficient steps for the prevention and control of these medical disorders. The analysis of the cardiovascular mortality is essential for the study of risk factors, for the prevention of cardiovascular diseases, for the correct observation of disordered patients and for the distribution of technical and logistic means, necessary in the action taken against these diseases. We have considered the deceases that have occurred in Oradea municipality during the period 2003 and 2007. The evolution of mortality due to cardiovascular diseases in Oradea municipality, during the period 2003-2007, has been under the medium level of Bihor county and the situation in our country at large, the death rate being higher in the case of men and persons over 65. By analysing the death rate in terms of large groups of diseases, the mortality caused by myocardial ischemia occupies the first place. The average age at the deaths caused by heart diseases was about 72,0 and 72,5 years for the period we had in view, the highest rates being identified in 2005 and the lowest rates in 2003.

INTRODUCTION

In Europe, about 4 million deaths occur every year as a result of heart diseases, representing almost half of the total number of deaths (55% of the total number of deaths in case of women and 43% from the total of deaths in case of men). About half of the deaths caused by heart diseases are determined by the myocardial ischemia, which is responsible for 2 million of deaths annually (1).

In the European Union, the situation is almost similar: the heart diseases are also a major cause of death (1,5 million people die annually of heart diseases, which represents 42% of all death cases). Myocardial ischemia causes approximately 600000 deaths annually, respectively 1 in 6 deaths in the case of men and 1 in 7 deaths in the case of women (2, 3).

In Romania the heart diseases represent the main mortality cause, being responsible for 62% of the total number of deaths. The death rate associated with such diseases seems to decrease, but the standardised death rate is much over the average rate in Europe.

PURPOSE OF THE STUDY

The study of mortality caused by heart diseases, with the view of identifying those categories of persons who, by correlation with the heart disease, can represent a priority

for the application of preventive and educative measures; the finding of some aspects and correlations between the level of mortality and some socio-economic and cultural factors.

MATERIAL AND METHOD

In the course of the observational, the retrospective and the descriptive study, conducted in Oradea municipality during 2003-2007, we have gathered information concerning the population and the number of deaths caused by heart diseases. The main source of data has been the Medical Certificate that states the deaths. All data have been evaluated by using statistical methods and have been correlated with demographic indicators, using the medical codifications included in the International Classification of Diseases, 10th revision, in accordance with the Basic List – 999 codes. We have used methods such as the ones referring to measuring, description and analysis of the specific mortality.

RESULTS AND DISCUSSIONS

In 2006, in Romania, the deaths associated with the cardiovascular diseases represent the main mortality cause – 742,8 deaths for 100000 persons, being followed, at an important distance, by neoplasias (210,6 deceases for 100000

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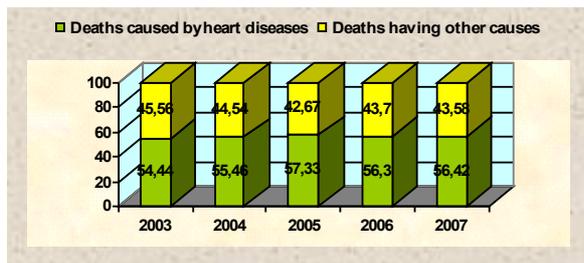
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persons).

At the inter-county level, the indexes for the standardised cardiovascular mortality varies from 900,2 deaths at 100 000 persons for Satu-Mare county, 575,8 for Brasov county and 530,5 for Bucuresti municipality (4,5). In terms of mortality caused by heart diseases, Bihor county occupies the 8th place at the national level.

During 2003-2007, 5975 persons died of heart diseases in Oradea, which indicates an annual rate of 1195 cases, the lowest annual value of 1168 cases being registered in 2007, and the highest one, of 1234 deceases, in 2004.

Figure no. 1. The death rate due to heart diseases, from the total of deaths having occurred in Oradea municipality, during the period 2002-2007



The evolution of mortality due to heart diseases, during the period 2003-2007, in Oradea municipality is under the medium level in Bihor county and in our country in general (see figure 2), with the highest mortality rate having occurred in 2002; we can also observe a lowering of this rate during the period we had in view.

Figure no. 2. The evolution of mortality caused by heart diseases during the interval 2003-2007 in Oradea municipality, in Bihor county and in Romania

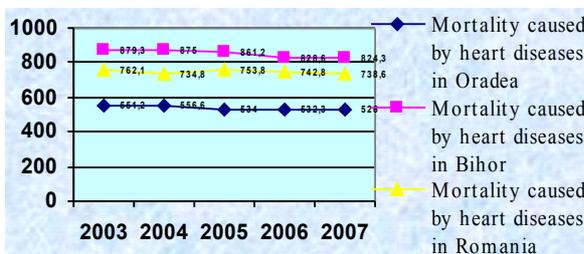
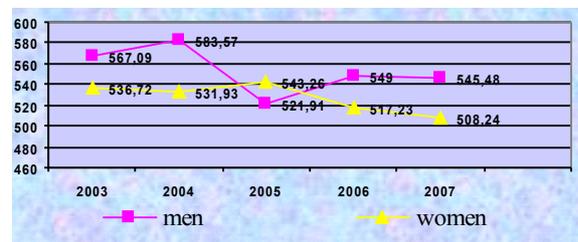


Figure no. 3. The evolution of mortality caused by heart diseases in Oradea municipality, during the period 2003-2007



The percentage of deaths registered in Oradea municipality during the period 2003-2007, caused by heart diseases, related to the sex of the dead persons, indicates the fact that there have been registered more deaths in the case of women (3053), by comparison with the case of men (2922). Although a highest death rate can be associated with women, the feminine mortality is lower than the masculine one, with the exception of 2005.

There haven't been significant changes concerning the rate by heart diseases in terms of age groups, in Oradea municipality, during the period 2003-2007.

Table no. 1. The rate of deaths caused by heart diseases in terms of age groups, in Oradea municipality, during the period 2003-2007

Age groups	2003	2004	2005	2006	2007	Total
0-19	1	6	7	5	6	25
20-34	6	10	3	4	5	28
35-49	74	66	61	58	61	320
50-64	215	231	212	231	219	1108
Over 65	922	923	893	881	877	4396
Total	1218	1234	1176	1179	1168	5975

The evolution of deaths during the period 2003-2007, due to heart diseases in terms of age groups, in Oradea municipality, indicates a decrease in the number of deaths for almost all the age groups.

Table no. 2. The death rate (reported at 100000 inhabitants) due to heart diseases, in terms of age groups, in Oradea municipality, during the period 2003-2007

Age groups (years)	2003	2004	2005	2006	2007	Total
0-19	1,78	12,68	14,05	12,8	15,63	11,39
20-34	11,37	15,23	5,33	6,75	8,1	9,36
35-49	140,57	119,27	109,97	105,27	111,5	117,32
50-54	681,6	721,57	658,53	689,4	463,57	642,93
> 65	1920,68	1914,25	1882,12	1847,28	2031,20	1919,11
Total	701,8	710,6	767,9	762,1	734,8	736,2

The age groups between 60-64 years present relatively low mortality rates, and the evolution of the cardiovascular mortality at these age groups presents little variation from one year to another. With the patients' evolution in age, the number of deaths increases, while the population in terms of age groups decreases, which determines the pronounced increase of mortality values for the group ages over 65 years.

Table no. 3. The cardiovascular mortality in terms of the causes for the deaths, in Oradea municipality, during the period 2003-2007

The cause of the deaths	2003	2004	2005	2006	2007
Hypertension	11,31	11,72	20,88	12,64	12,60
Acute myocardial infarct	128,08	119,07	105,34	106,10	117,54
Other myocardial ischemias	174,25	188,08	190,25	174,72	141,41
Cerebral-vascular diseases	155,69	147,94	143,94	148,08	145,46

In terms of large groups of diseases, the mortality due to myocardial ischemias occupies the first place, representing about 50 % of the total of cardiovascular mortality for the whole period of time we have in view, while the group of cerebral-vascular diseases represent only 25 %.

In terms of evolution, the mortality caused by chronic myocardial ischemia registers a slow increase until 2006, after which we can observe a decrease with approximately 25% from the value of the mortality, while the mortality caused by acute myocardial infarct and cerebral vascular accident present an approximately stationary evolution till 2006, after which we can observe a slow increase in 2007.

The average age at death is between 72,0 and 72,5 years, during the period that we had in view, the highest rate being registered in 2005 and the lowest one in 2003. The

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number of persons over 65 years old, from the total of the population, indicates a slow increase during the period we had in view, from values of 9,3% in 2003 to 9,9% in 2007.

Table no. 4. The masculine and the feminine mortality in terms of deaths causes in Oradea municipality, during the period 2003-2007

sex	The cause of the deaths	2003	2004	2005	2006	2007
masculine	Hypertension	8,50	8,49	14,26	14,27	11,19
	Acute myocardial infarct	181,47	162,41	130,24	119,88	86,14
	Other myocardial ischemias	130,43	167,14	160,66	161,75	163,67
	Cerebral-vascular diseases	159,73	146,36	138,79	147,47	145,58
feminine	Hypertension	13,89	14,67	26,85	11,16	11,19
	Acute myocardial infarct	79,03	79,44	82,31	93,65	86,14
	Other myocardial ischemias	214,51	207,24	243,59	186,44	163,67
	Cerebral-vascular diseases	136,35	149,39	148,16	148,64	145,58

Figure no. 4. The evolution of the average age in case of deaths caused by heart diseases, in correlation with the percentage of elderly persons, during the period 2003-2007

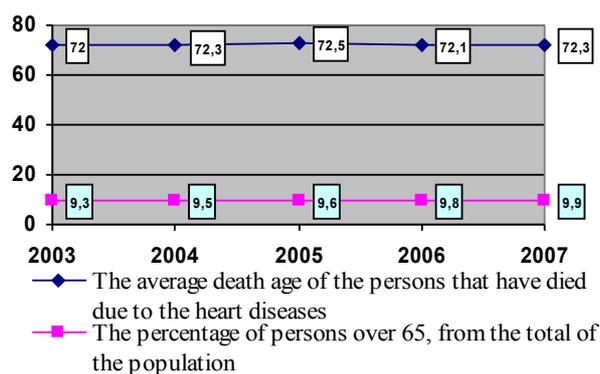


Table no. 5. The evolution of the average age in case of deaths caused by heart diseases, in correlation with the percentage of elderly persons, during the period 2003-2007

(years) age group	The percentage of deaths caused by heart diseases correlated to the age group, from the total number of deaths caused by heart diseases					The percentage of the population of the respective ages, in relation with the total number of the population (%)				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
< 50	6,7	6,4	6,0	5,7	6,2	76,0	75,5	74,9	74,3	74,0
50-64	17,7	18,7	18,0	19,6	18,8	14,7	15,0	15,4	15,9	16,0
65-74	27,9	25,6	25,9	27,3	26,4	6,3	6,4	6,4	6,5	6,6
> 75	47,8	49,0	50,1	47,4	48,7	3,0	3,1	3,2	3,3	3,4

In terms of the percentage of the population divided in large age groups and the percentage of deaths caused by heart diseases, corresponding to the period 2003/2007, we can observe an inverse ratio relation between the two entities. In relation with the percentage of population with large age groups, we can observe a progressive aspect, the lowering of this percentage for persons under 50, from 75,97% in 2003 to 74% in 2007, and for the persons over 50 a slow increase, from 2003 till 2007.

Looking at the deaths caused by heart diseases, in relation with the age groups and taking into consideration the total number of deaths caused by heart diseases, we can speak of an oscillating evolution during the five years we had in view.

CONCLUSIONS

The standardised cardiovascular death rate in Bihor county and Oradea municipality presents the same characteristics as the one registered at the level of the entire country, the tendency towards the decrease of the specific mortality being observed here as well.

During the period 2003-2007, 5975 deaths caused by heart diseases have been registered in Oradea municipality, of which 3053 occurred in case of women and 2922 in case of men.

The main diseases that have caused the death are the following: the chronic myocardial ischemias, the acute myocardial infarct and cerebral vascular accidents that have not been defined as haemorrhage or infarct.

The average death age for the persons who have died due to heart diseases (years) is between 72,0 and 72,5 years, for the entire period that we had in view.

Completing the analysis we have done with the study of other epidemiologic indicators, in relation with the diagnosis and therapeutic means available in Bihor county, we shall manage to obtain a local model, that would allow us to adapt the network of cardiovascular assistance in terms of necessities. The model, if successful, could be adapted and extended later to the situation of other counties, or even to that of the entire country.

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