

## MORTALITY THROUGH TUMORS IN BIHOR / HAJDU-BIHAR COUNTIES

Daina Lucia\*, Burta Ligia\*, Carp Gheorghe\*, Suci Ramona\*, Daina Cristian\*, Bonta Marinela\*,

\*University of Oradea, Faculty of Medicine and Pharmacy, Oradea, 1 December Street, nr.10, Romania, e-mail: [lucidaina@gmail.com](mailto:lucidaina@gmail.com)

### **Abstract**

*At the beginning of the 21'st century, cancer continues to be one of the most serious diseases the world is confronted with. Due to its predictability and continuity into the future, with obvious demoralizing consequences and human, economic and social implications, the image of cancer is the darkest out of all serious diseases, surrounded by a myth of incurability and suffering (WHO). Mortality through tumors is continuously rising, with its more frequent localization being in men through broncho-pulmonary cancer followed by colorectal and prostate cancers, and in women through breast, genital, colorectal and broncho-pulmonary cancers.*

**Key words:** Euro-region, mortality, tumors

### **INTRODUCTION**

There are a number of factors responsible for the apparition of tumors such as smoking, alcohol consumption or an unhealthy diet; certain biological factors are also worth considering, but the most important factor seems to be the genetic one. A healthy lifestyle, a prudent ecologic behavior such as protecting the population from water, air and soil pollution and properly developed food products can contribute to an increase in the safety of the population regarding cancerous diseases (Dumitrache L, 2004). According to the WHO, central organizations need to set up screening networks for the early and proper discovery of genital, colon, prostate, oral and lung cancers (WHO).

### **MATERIAL AND METHOD**

1. The work methodology used in this paper is characteristic of a socio-economic study (analysis method, comparative method, statistic and mathematic methods) based on specialty literature and on the obtaining and filtering of information gained from several public institutions (Bihor County Statistics Agency, Debrecen Statistics Office, Public Health Office of Bihor County and Debrecen as well as the City Halls and County Councils of the two important cities, Oradea and Debrecen) (Hungarian Central Statistics Office, Direcția de Sanatate Publica Bihor).

## RESULTS AND DISCUSSIONS

Cancer development is usually based on the lack of a well-defined infrastructure in controlling oncogenic infectious factors as well as the lack of preventive and screening capabilities for a large percentage of the population; other factors such as poor quality food for the disadvantaged population is a contributor.

In Romania, as well as in Bihor County, after heart disease, malignant tumors represent the second cause of death in population with 17% of total deaths attributed. The most frequent cancers are the cancers of the lungs, gastric cancers, colon cancers, breast and uterine cancers, with Bihor County ranking high on the list along with its neighboring counties Arad and Timis. The standardized mortality rate per 100.000 people is of 126,9, with significant differences between genders: 171,4<sup>0</sup>/0000 in males and 91,8<sup>0</sup>/0000 in females. The risk of death before the age of 75 is 13,9% and 18,7% in males, and 9,8% in females. In females with ages between 35 and 64, the most frequent types of cancers are the breast, uterine, stomach and pulmonary cancers. In women over the age of 65 the order is reversed, with stomach, breast and lung cancers prevailing. The mortality rate due to malignancy in women is continuously rising, especially because of the uterine and breast cancers; in fact, in women between the ages of 15 and 44, uterine cancer is the main cause of death.

In males between the ages of 35 and 64, the more frequent forms of cancer are pulmonary, stomach, laryngeal, pancreatic and oral cancers. In males over the age of 65, gastric, pulmonary, prostate, urinary tract and rectal cancers predominate. A slight decrease in death due to cancer was observed in the second half of the 90's decade in both genders. The decline in males is higher than the decline in females, but the risk of cancer is still twice as big in males than in females and over the decline rate registered in other EU member states. At the level of Bihor County, the cancer mortality rate is trending upwards.

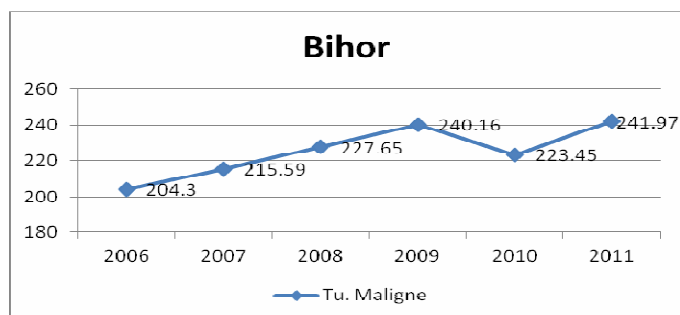


Fig. 1. Cancer mortality in Bihar County in 0-X age groups between 2006-2011 (Source: Public Health Office of Bihar County, 2011)

From a frequency point of view, deaths caused by tumors were in second place in Hajdu-Bihar County in 2010, with 28,1% in males and 21,7% in females. The national decline curve observed after 2005 is sadly due to the implementing of a new codification system and not due to a decrease in overall deaths.

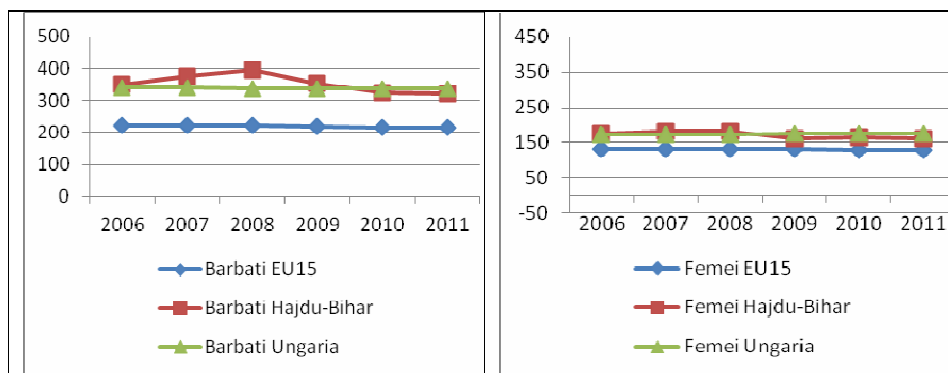


Fig. 2. Cancer mortality in Hajdu-Bihar County in 0-X age groups between 2006-2011 (Source: Debrecen Statistics Office, 2011)

The analysis of premature deaths due to cancer pinpoint regional disparities in Hajdu-Bihar County in the Balmazújvárosi and Derecske Létavértes areas and smaller areas of Hajdúhadház, with males significantly more affected than females.

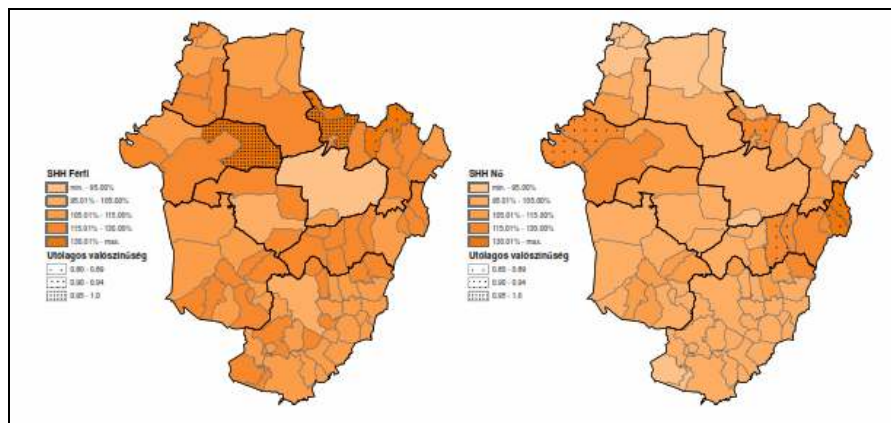


Fig. 3. Cancer mortality in Hajd-Bihar County, grouped by territory, 25-64 age group, 2006-2010 (left – Standardised mortality rate in males/probabilities; right – Standardised mortality rate in females/probabilities.) (Source: Debrecen Statistics Office, 2011)

Based on territorial grouping, there have been more cancer-related deaths in some territories than the national average, as shown in Table 1.

*Table 1.*

Standardized tumor mortality report, on regions and sub-regions, genders, 2006-2010  
(*Sursa: Debrecen Statistics Office, 2011*)

Region	Town	Standardized Mortality Rate	
		Male	Female
Balmazújvárosi	Egyek	-	129,3
	Balmazújváros	137,6	-
Derecske-Létavértesi	Bagamér	-	132,7
	Almosd	-	131,1
	Hajdúbagos	-	119,5
	Monostorpályi	-	120,2
	Hosszúpályi	-	119,5
Hajdúhadházi	Hajdúhadház	150,9	-
	Nyíradony	132,4	-
	Téglás	133,3	-

In Hungarian males, a grouping based on cancer types shows a high bronchial, tracheal and lung-related cancer mortality rate, where the main risk factor is represented by smoking in an overwhelming 80% of cases. In Hajdu-Bihar county, deaths due to broncho-pulmonary cancers in males is over the national average. In women, in spite of a tendency towards increased mortality, it is situated under the national average. The death risk is rather found in colon, sigmoid colon and rectal cancers, and a premature discovery of these types of cancers would lead to a growth in the efficiency in curing these diseases, which can be improved significantly. The main cause of this type of affliction is due to a sedentary lifestyle and poor nutrition. Analyzing regional differences in males in the Balmazújvárosi, Derecske, Létavértesi and Hajdúhadház areas revealed a significantly higher mortality rate. In female patients, the differences observed can be statistically accepted as normal.

The mortality rate through tumors in women is one of the highest, causing important social losses in active-age women. The main cause is a decreased efficiency in primary preventive methods, highlighting the need for the development of screening capabilities as secondary prevention. In Hajdu-Bihar County, the study of mortality through cancer based on age groups did not reveal any regional differences from a statistical standpoint. The regional differences were highlighted in uterin cancers, but without significant abnormalities. In the prevention of uterine cancers it is very important to take measures in preventing genital infections as well as administering anti-HPV vaccines and basic hygiene instructions.

In Hungary, an increase in oral, lip and pharyngeal cancers has been noted in the past decade. In Hajdu-Bihar County, the mortality due to these types of cancers is under the national average in males but higher than the national average in females; even so, males are 4-5 times more affected by these types of cancers than females. Comparatively, in the Euro-Region, the mortality rate due to tumors does not present significant differences between the two counties:

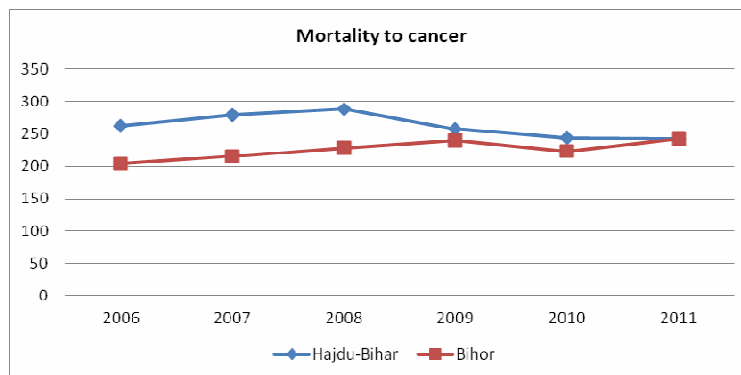


Fig. 4. Mortality due to cancer in Hajdu-Bihar, Bihor Counties, 0-X age group 2006-2011  
(Source: Debrecen Statistics Office, Public Health Office Bihor, 2011)

## CONCLUSIONS

In the Bihor/Hajdu-Bihar Euro-Region we can state that mortality due to tumors represents the second overall cause of death within the population. In regards to the structure of mortality based on genders and tumor location, we can pinpoint the following: in males, the first place is occupied by the broncho-pulmonary cancers, followed by the colorectal, prostate, stomach and bile cancers; in women, the first place is occupied by breast cancers, followed by malignancies in the genital apparatus, colorectal and broncho-pulmonary cancers.

An increase in the frequencies of lung, breast and colorectal cancers reflect a westernization of the lifestyle, a better overall life expectancy and a globalization of the market for tobacco products.

## REFERENCES

2. *A Hajdu-Bihar-Bihor Euroregió helyzetfeltáró tanulmánya*, Magyar Tudományos Akadémia, RKK Debreceni osztálya, Debrecen Academia Stiintifica Ungara-Centrul de Studii Regionale (MTA-RKK), Debrecen, 2006
3. Date statistice de la Direcția de Sanatate Publica Bihor.
4. Date statistice de la Primaria orasului Debrecen.
5. Directia de Statistica din Debrecen(KSH).

6. Dumitrache, Liliana,(2004),: Starea de sanatate a populatiei României. O abordare geografica, Editura Univers Enciclopedic, Bucuresti
7. Global Atlas on cardiovascular disease prevention and control, OMS, Geneva 2011
8. [http://www.ccss.ro/public\\_html/sites/default/files//Cauzele%20de%20deces%20in%20Romania%20](http://www.ccss.ro/public_html/sites/default/files//Cauzele%20de%20deces%20in%20Romania%20)
9. [http://www.who.int/features/factfiles/noncommunicable\\_diseases/facts/en/index.html](http://www.who.int/features/factfiles/noncommunicable_diseases/facts/en/index.html)
10. Hungarian Central Statistics Office
11. Hungarian Human Development Report of UNDP 2008
12. Noncommunicable diseases country profiles, 2011
13. Raport de activitate a Direcției de Sănătate Publică a Județului Bihor, 2012
14. Tájékoztató a Hajdú-Bihar Megyei Önkormányzat számára a megye lakosságának egészségi állapotáról, 2010
15. Tájékoztató Hajdú-Bihar megye lakosságának egészségi állapotáról, 2012
16. WHO. World Health Report 2011: 87-103
17. World Health Organization. Controlling the global obesity epidemic. Available at <http://www.who.int/nut/obs.htm>.