HEALTH STATUS OF RURAL POPULATION IN IALOMIȚA COUNTY

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Abstract

Health is an issue that manages to provide many topics in various fields (medicine, geography, sociology, psychology). This study aims to highlight the territorial disparities in health status of Ialomița county, to identify the health determinants and to make a preliminary analysis of the relationships between the lifestyle and the health status, using an objective assessment (statistics) and a subjective evaluation (health surveys). There were analyzed elements such as mortality and morbidity, using health indicators (mortality rate, infant mortality rate, specific mortality rate and specific morbidity rate) and an aggregate index (health index). Combining statistic analysis and spatial analysis, the study offers the possibility of comparing the rural areas with urban area, and it can be a base for further studies. The health services, ageing and the characteristics of lifestyle could explain the territorial disparities in health status. A health study can reveal important details about economic features, social behavior, mentality and social environment.

Keywords:*health status, lifestyle, rural population, health problems, Ialomița county, health survey, statistics*

1. Introduction

Health was studied differently over time according to the level of industrialization, development of society and awareness of science. At the beginning, health was studied strictly from the medical or biological point of view, nowadays it has become an interdisciplinary subject for study. The plurifactorial model appeared after 1950, a model in which the disease is seen as an imbalance in body function that appears due to external factors (Vlădescu, 2000).

Health status depends on many factors that are interrelated: genetics, behaviours, attitudes and values, lifestyle, social position (Brown et al., 2010). Lifestyle has a greater weight in determining the health status of the population,

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according to the studies made in Romania, about 51%, compared to other determinants such as biological factors (20%), environment (19%) or healthcare (10%).

In the 20th century one can talk about „epidemiological transition": fewer people die from infectious diseases or nutrition problems, but living longer they are exposed to risk factors for cardiovascular diseases (Curtis and Taket, 1996). These heart diseases are specific in the developed countries and they are closely related to people's behaviors on health.

A British study established that mortality rates were higher in cities with softer water, due to lack of minerals (calcium, magnesium) and the presence of sodium, iron and cadmium. Other factors were considered to be the social class, the local climate, the job (manual workers or intellectuals), negative temperatures and the percentage of rainy days (Pocock et al, 1982).

Studies set in Canada, Australia, and USA have indicated higher overall mortality rates among rural populations. For example, higher mortality rate from suicide and cancer mortality are more prevalent in rural areas in USA. Smoking, physical inactivity in leisure time, and obesity have also been reported to occur more frequently among rural populations (Eberhardt et Pamuk, 2004).

Although data and studies show that the health status of the rural population is poorer than the urban population, rural lifestyle is considered to be healthier by its organic food, the possibility of more intense physical activities and the air less polluted.

Previous studies have shown that the Romania′s population health is poor compared to other European countries. Moreover, the Eastern European countries that have much higher mortality rates than those in the West part of the continent. Romania stands out with one of the highest mortality rates. For example, in 2011, countries like Netherlands, Great Britain, Denmark, Spain, Switzerland, Belgium recorded mortality rates below 10 ‰, and Romania recorded values of 11.8‰. The same difference occurs in case of infant mortality rate: with values of 9.4 ‰ in 2011, Romania is badly positioned compared to countries such as Serbia, Ukraine, Croatia, Spain and Netherlands, with values ranging from 3.6 to 9 ‰ (Eurostat Database, 2013).

In the European Union, circulatory system diseases, particularly cardiovascular diseases, and cancer are the leading causes of death (WHO, 2009). The differences appear between continents, countries, regions, areas of living and social environments.

The differences between regions and residence (urban-rural) in communist countries become more evident after 1990, as in the cities were introduced new medical treatments, new technologies, and modern medical services, while in villages the health education was absent and the medical system was based on treatment not prevention (Alber and Kolher 2004).

In many E.U. countries, the residence is not an important factor in evaluating health. The area of residence becomes more important in countries where the differences between urban and rural areas are large, such as Romania and Bulgaria (Precupețu, 2008).

In Romania still exists high disparities between mortality rates by gender, residence, regions, counties and age group. Men have higher mortality rates than women have, the rural areas have higher values compared to urban areas, and mortality rates increase with the advance of age (Pop, 2010).

In Romania, between 2006 and 2011, the general mortality rate varied: from 12‰ in 2006 increased in the period 2007-2010 and decreased after 2010 and in 2011 was 11.8‰. In the same period, the infant mortality rate decreased from 13.9‰ in 2006 to 9.4‰ in 2011 (National Institute of Statistics, 2013). The differences are also between regions: in 2011, Bucharest-Ilfov Region had the lowest infant mortality rate (5.7‰) and South East Region had the highest infant mortality rate (11.3‰). The region in which is situated Ialomița county (South Muntenia) had the highest value of general mortality rate (13.2‰) and the infant mortality rate of 10.3‰.

Comparing with other Romanian counties, one can notice that in 2011 Ialomița county had a higher infant mortality rate (12.7‰) and general mortality rate (13.6‰) than counties like Bihor, Brașov, Sibiu, Iaşi, Constanța, Prahova and Arad (National Institute of Statistics, 2013).

Comparing the rural and the urban areas in Romania, in 2011, one can notice that the general mortality rate was higher in rural areas (14.2‰) than urban areas (9.8‰). The difference exists also in case of infant mortality rate: 11.8‰ in rural areas and 7.5‰ in urban areas (National Institute of Statistics, 2013).

The study area is Ialomița county, located in the south-east part of Romania, in Bărăgan Plain, close to Bucharest area, with a dominant rural population (54.2% in 2008). The administrative structure of the county contains three municipalities (Slobozia, Urziceni and Feteşti), four cities (Fierbinți-Târg, Amara, Căzăneşti and Țăndărei) and fifty nine villages.

2. Methodology

The objectives of this study were to highlight the key indicators of health status, to highlight the regional differences and the possible determinants based on preliminary results of the health survey conducted in Ialomița county. This health survey was applied in December 2013, in four sample localities chosen after calculating the health index (Slobozia, Bărbuleşti, Platoneşti and Balaciu), and its objective was to reveal the strong relationship between lifestyle and health status.

For this study, it has been used a bibliographic investigation for understanding the factors that determine the health status of population, followed by the research of the organizations specialized sites (World Health Organization, OMS Romania) and scientific articles on the subject.

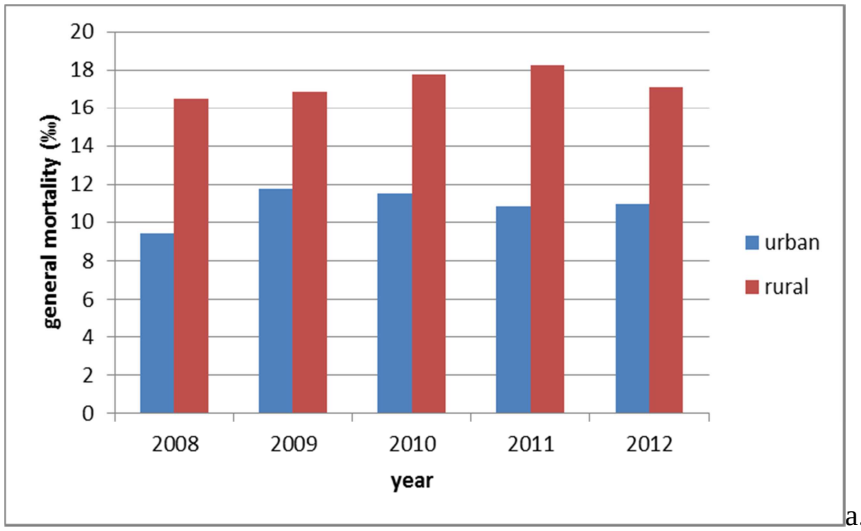
The statistical investigation that followed included collecting, processing and analyzing the primary statistical data obtained from the National Institute of Statistics, Ialomița County Institute of Statistics and D.S.P. Ialomița (Ialomița Public Health). It was also calculated an aggregate index based on health indicators (mortality rate, infant mortality rate, specific mortality rate and specific morbidity rate), which were standardized (Dumitrache, 2004). More exactly, there were 12 indicators (mortality rate, infant mortality rate, specific mortality from circulatory diseases rate, specific mortality from respiratory diseases rate, specific mortality from digestive diseases rate, specific mortality from cancer rate, morbidity caused by circulatory diseases rate, morbidity caused by respiratory diseases rate, morbidity caused by digestive diseases rate, morbidity caused by cancer rate, and life expectancy) that were standardized for the years 2008, 2009, 2010, 2011 and 2012. The health index obtained has values between 0 and 1, showing a good health when the values are close to 0 and a poor health when the values tend to 1.

The spatial analysis was based on maps obtained using Quantum GIS, on statistic data and health survey applied in four localities. The topic of the survey was based on the main components of lifestyle, and the responses obtained were useful to create an image of lifestyles in urban and rural areas.

3. Results and discussions

Analysis the health indicators show that in chronic diseases the first 5 places are occupied by hypertension, ischemic heart disease, diabetes, ulcers and chronic lung diseases (National Institute of Statistics, 2010). In Ialomița county, the main cause of death is represented by the cardiovascular disease: hypertension is highly prevalent among the elderly and adults as a direct result of an unhealthy lifestyle and an indifferent attitude towards keeping health, periodically control and prevention (Ialomița Institute of Statistics, 2012).

In rural areas, the general mortality rate is higher compared to urban areas (*Fig. 1a*). In the period 2008-2011, the general mortality rate in rural areas increased from 16.5‰ to 18.3‰, and started to decrease after 2011 to 17.1‰ in 2012. The causes of death remain valid in 2012 as in the past years: diseases due to circulatory system, digestive diseases, respiratory diseases and traumatic injuries. Moreover, the differences are significant between rural and urban when it comes about mortality due to circulatory system diseases, the rate in the rural area is almost double (*Fig. 1b*).



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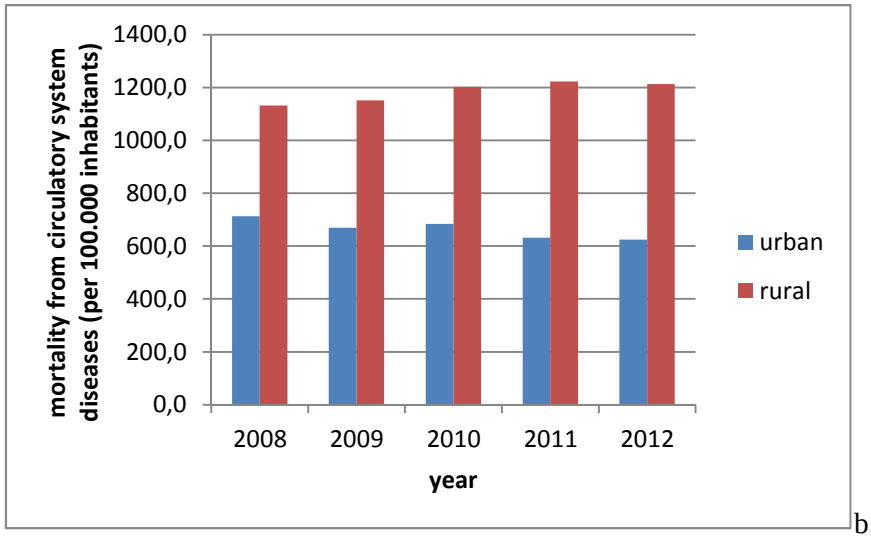

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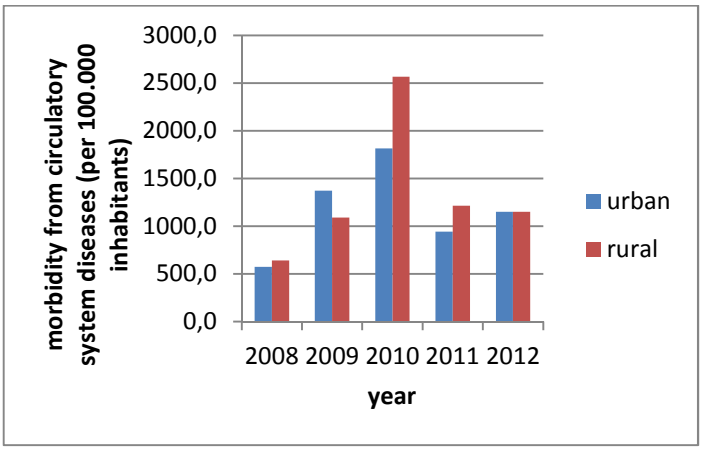
Fig. 1. The evolution of mortality between 2008-2012: a. general mortality rate; b. mortalitydue to circulatory system diseases.
Source: D.S.P. Ialomița (Ialomița Public Health Directorate)

Analyzing the evolution of morbidity between 2008-2012, one can notice that the number of diseases due to circulatory system diseases is much higher than diseases due to respiratory diseases, which reveals the fact that the lifestyle has a bigger influence than external factors (*Fig 2*). The culture (religion,

customs, cultural environment) has a bigger influence on health than space and natural environment have (Gesler, 2002).

In 2010 was recorded the highest number of illnesses and in the rural area the morbidity due to circulatory system diseases decreased after 2010, and the morbidity due to respiratory system diseases has increased after 2011. This fact can lead to two assumptions: the rural population becomes more careful with their health and the decrease is real, or they started to avoid going to the doctor and the number of illnesses decreased only in statistics.



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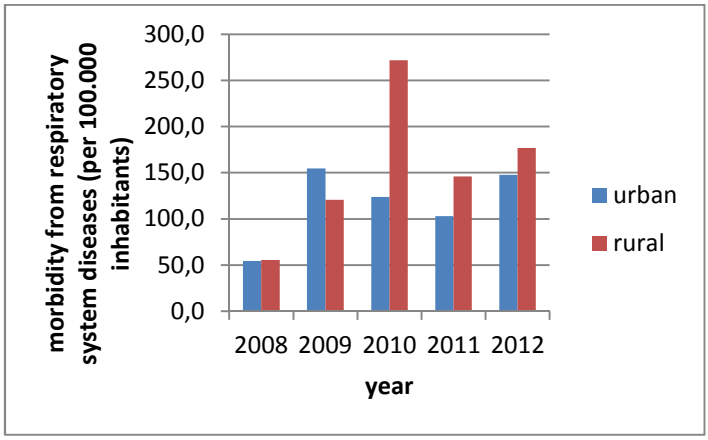

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Fig 2. The evolution of morbidity between 2008-2012: a. from circulatory system diseases; b. from respiratory system diseases
Source: Ialomița Institute of Public Health

The frequency of diseases is associated with physical, biological and social factors, more exactly with climate, natural biological environment and anthropological environment (Sorre, 1933). The social environment affects the health status, and a good example can be found in the poor countries, where disease and poverty are closely linked: low income, poor diet, and low access to health services.

Age is an important issue that should not be missed when talking about mortality and morbidity. Age is a critical factor for health status. Metabolism changes in response to different energy requirements when behavioral roles change with age and growth, and physical maturation (Meade, 2010). Demographic aging is evident in the rural areas of Ialomita county (Figure 3), although the birth rate is quite high and the number of those who leave for a job in urban areas is high. The effects of the demographic aging are felt in the economic, social and health domains.

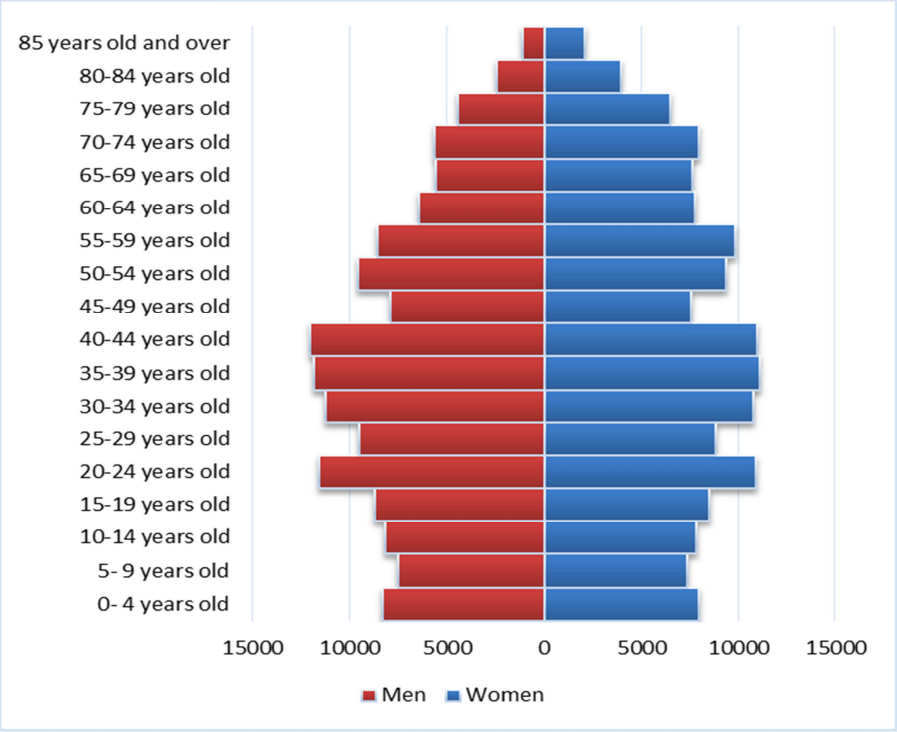

Fig 3. Pyramid by age and sex of rural population in Ialomita county (2010)
Source: Ialomița Institute of Statistics

Along with ageing increases the vulnerability to disease, so the mortality rate is higher among those over 60 years old (Figure 4). Therefore, the

demographic differences that exist between the rural and the urban population make the health status to be different between the two environments: rural ageing population show a poorer health status compared to urban population.

It is well recognized that the urban population has better health status than the rural population (Blaxter, 1990). The causes are multiple: differential access to healthcare, medical technology, information and promotion paths, different mentalities etc. This happens also in Ialomița county: poor health is where the population is poorly educated, the incomes are low, health services are poorly developed and / or partially accessible, the lifestyle is chaotic. In the future, these discrepancies between the two areas will accentuate the differences between the health status of Ialomița population.

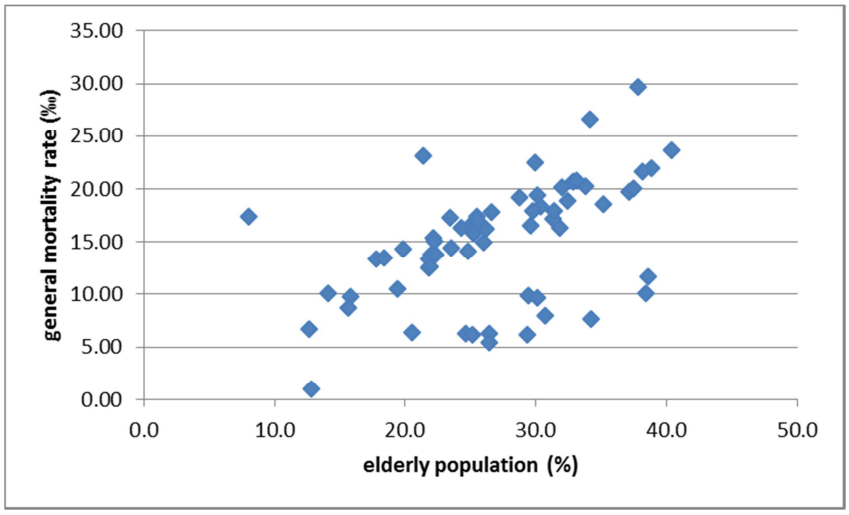

Fig. 4. The relation between mortality and age
Source: Ialomița Institute of Statistics

The differences between the urban and the rural health status can be observed through the multiannual average of health index: in the rural areas it has higher values, which indicates a poorer health status than in the urban areas (*Fig 5*).

The areas with a poor health status are located in the West part of the county, in localities characterized by a high share of population over 60 years old (Balaciu, Brazi, Valea Măcrişului, Dridu, Adâncata, Armăşeşti, Cocora, Bărcăneşti), reflecting the role that age is playing in assessing the health of the population. Also in the West part are some localities with a good health status (Urziceni, Drăgoeşti, Roşiori, Borăneşti, Bărbuleşti, Sfântul Gheorghe) that are close to the urban area influence.

However, there are also localities in which the relationship between health index and age is not so strong (Reviga, Grindu, Munteni Buzău, Drăgoeşti), in which the elderly population represents over 30% of the total population, but the health index has a moderate value, which shows that there are other elements contributing to health status, like lifestyle and medical services.

The areas where the health index has moderate values are: the urban areas (the seven cities of the county) and some localities from the Central and Eastern part of Ialomița county. Here, the access to health services is made easier due to the proximity of the cities, the greater financial resources and the modern lifestyle. One can notice that the East part of Ialomița county (from Amara and Slobozia city to Feteşti and Giurgeni) has the best health status, with values of health index under 0.300.

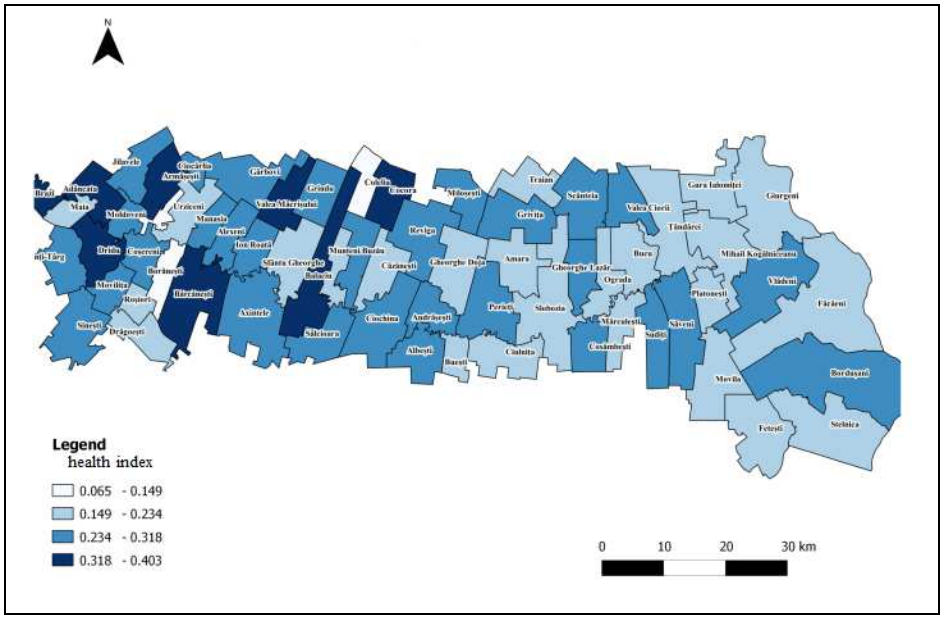

Fig 5. Health index in Ialomița county (2008-2012*)*
Source: Ana-Maria Taloş

Between 2008 and 2012, the health index varied: the year 2010 was the one that had the lowest health index value, meaning that in 2010 the health status was the best from the period 2008-2012, and the year 2012 is the opposite, with the highest value of the health index and a poor health status (*Fig 6*).

Compared with urban areas, the health status of rural population has improved between 2008 and 2010, while the urban population had the same health status in 2008 and 2009. In both residences, after 2010 the health became

worse and this happened simultaneously with the progress in the medical field, as a consequence for ageing and increasingly adoption of an unhealthy lifestyle.

Analyzing the two values of health index in 2010, one can observe the advantage of urban areas (0.134) compared to rural areas (0.184) and a better health status. The same happens in 2012: value of 0.248 in urban areas and 0.317 in rural areas.

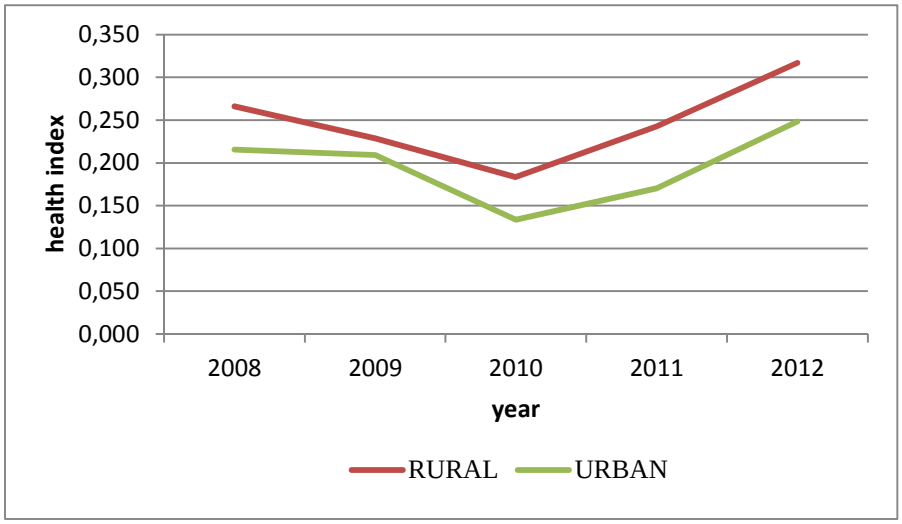

Fig. 6. The evolution of the health index between 2008 and 2012
Source: Ana-Maria Taloş

Using the data from National Institute of Statistics, the author created a morbidity model for Ialomiţa county, with the main causes of disease for the years 1988 and 2010: infectious diseases; cancer; circulatory system diseases; respiratory system diseases; digestive system diseases; injuries, poison and other causes (*Fig 7*).

This model shows that the reasons for visiting the doctor are pain and health problems, visible in the big percentage of respiratory and digestive system diseases, as these diseases have symptoms. On the other side, the small percentage of cancers and circulatory system diseases shows no regular medical control and a low medical education: these diseases don't have major symptoms and they are detected late, being the main causes of death.

Comparing the two models in different years, one can notice a small improvement in 2010: the number of respiratory system diseases decreased from 55,51% to 42,89%, also the number of infectious diseases decreased from 4,39% in 1988 to 3,23% in 2010, which reveals a better health education and better medical services in 2010 compared to 1988. On the other side, the

number of digestive system diseases, cancers and circulatory system diseases increased in 2010 which shows a worse lifestyle (bad nutrition, less physical activity, daily stress, smoking and alcohol abuse).

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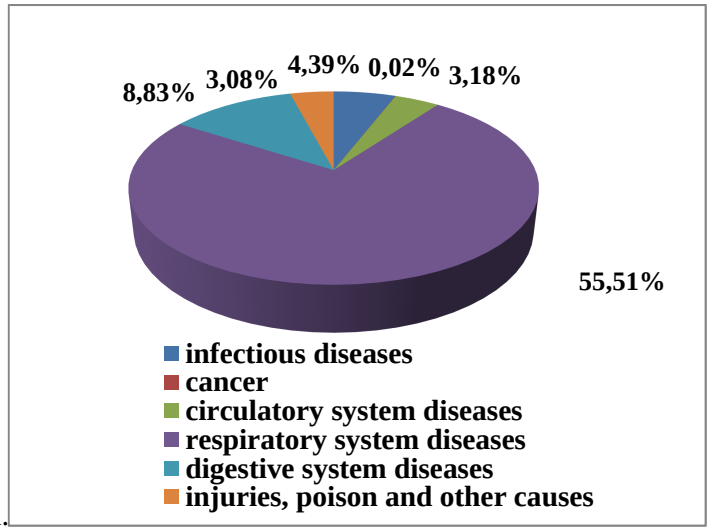

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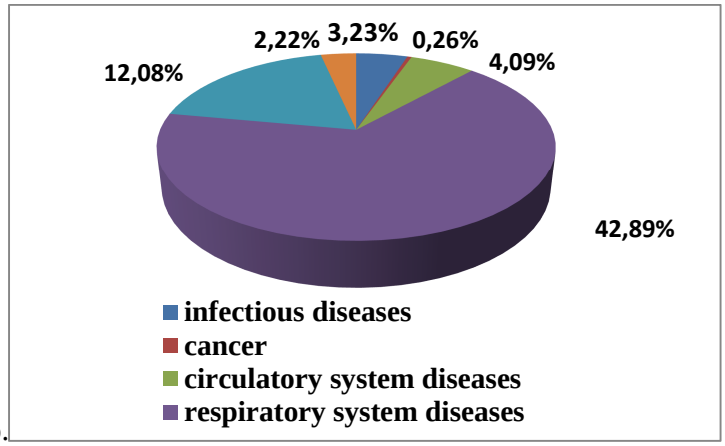

Fig 7. The morbidity model in Ialomița county:a. in 1988;b. in 2010
Source: National Institute of Statistics

After applying the health survey, from preliminary data, the author observed the differences between the lifestyle of rural and urban population. In rural areas the nutrition is more balanced as the meals of the day are strictly respected, the physical activities are intense, but the alcohol consumption is very popular, also the medical visits are rare and the stress level is medium.

On the opposite, the lifestyle in urban areas is more chaotic: dinner is the most important meal of the day, less physical activities, high level of stress, smoking and bad addressability to medical control. In the rural areas exists the possibility of natural food, but the lack of health education causes the adoption of harmful behaviors.

4. Conclusions

In this study were analyzed health statistics in order to highlight the inequalities that exist in the health status of Ialomița county, to identify the determinants and to analyze the health status of the rural population of Ialomița county. The results were obtained after a statistic analyze, through health data, and spatial analyze, using health maps.

After analyzing the health indicators, we concluded that the rural population has a worse health status than urban population, as the mortality and morbidity rate are bigger in the rural areas.

The analyze of the main determinants of the health status revealed the fact that there is a close connection between health and the age of population, which is very visible in rural areas. The personal lifestyle will be created according to the financial situation, age, education, job, traditions, mentalities, living environment, and it will affect the individual health.

The rural area has an important influence in learning habits, behaviors and attitudes that create a lifestyle, and they are hard to be modified during life, sometimes only in extreme cases (pain, illness etc.). For example, the rural population call the medical services only in cases of extreme need.

The characteristics of the rural environment give some special medical habits like no periodically medical control, the use of natural products instead of pills, drinking low quality alcohol, smoking etc. Although there are also some advantages like the possibility for food production for personal use and more choices for physical activities in the middle of the nature.

The concept of ”healthy lifestyle” is known theoretically by the rural population, but the rules aren′t applied in daily life for different reasons: financial resources, age, disregard about maintaining the personal health, the importance of ancient traditions, ease or poor time management.

In addition to external factors (bad information, poor accessibility to health services and modest financial situation), also the lifestyle components are neglected: nutrition, physical activity, stress, lack of disease prevention behaviours, alcohol abuse and smoking.

In the rural area, long-term information about healthy lifestyle should take into account a number of issues: promoting the prevention behaviours (blood tests); financial support for those with modest resources in order to have

an easy access to medical services; restrictions about the low quality alcohol and smoking; investment in health education and media education through public messages.

In Ialomița county, the local patterns of mortality and morbidity don′t overlap, because there are differences in their structure: respiratory system diseases are the leading cause of morbidity, but not the main cause of death being easily detected and treated.

REFERENCES

Alber, J., Köhler, U. (2004), *Health and care in an enlarged Europe*, Luxembourg, Office for Official Publications of the European Commission

Blaxter, M. (1990), *Health and lifestyles*, Routledge, London

Brown T., McLafferty S., Moon G. (2010), *A companion to health and medical geography*, Wiley-Blackwell Publishing, UK

Curtis, S. & Taket, A. (1996), *Health and Societies: Changing Perspective*,. London: Hodder Arnold

Direcția Județeană de Statistică Ialomița (Ialomița Institute of Statistics), *Baza de date a județului Ialomița- anul 2012*, Slobozia

Direcția de Sănătate Publică Ialomița (Ialomița Public Health Directorate), *Baza de date a județului Ialomița- anul 2012*, Slobozia

Dumitrache, Liliana (2004), *Starea de sănătate a populației României. O abordare geografică*, Editura Univers Enciclopedic, Bucureşti

Eberhardt, M. S., & Pamuk, E. R. (2004), *The importance of place of residence:examining health in rural and nonrural areas*, American Journal of Public Health, 94, 1682–1686

European Commission, *Eurostat Database 2013*, available online: http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

Gesler W. M., Kearns R. A. (2002), *Culture/Place/Health*, Routledge, SUA

Institutul Național de Statistică (National Institute of Statistics), *Anuarul Statistic al României 2013*, Bucharest

Meade M.S., Emch M., (2010), *Medical Geography, Third Edition*, Guilford Publication, New York

Pocock , S.J. , Cook , D.G., Shaper , A.G. (1982), *Analyzing geographic variation in cardiovascular mortality: methods and results*, Journal of the Royal Statistical Society Series A145, pp 313 – 41

Pop, Cosmina-Elena (2010), *Starea de sănătate a populației din România în context european. O abordare din perspectiva calității vieții*, Revista Calitatea Vieții, XXI, nr. 3–4, pp 274–305

Precupețu, I. (2008), *Evaluări ale protecției sociale şi îngrijirii sănătății*, în Mărginean, I., Precupețu, I. (coord.), *Calitatea vieții şi dezvoltarea durabilă. Politici de întărire a coeziunii sociale*, București, Editura Expert – CIDE pp 137–146

Sorre, M. (1933), *Complexes pathogènes et geographie médicale*, Annales de Géographie 235, pp 1 – 18

Vlădescu, C. (2000), *Managementul serviciilor de sănătate*, Editura Expert, București

W.H.O. (2009), *Global Health Risks: Mortality and burden of disease attributable to selected major risks*, World Health Organization, Genev