

Aspects of the population morbidity in some regions of the Republic of Moldova

*E.Ciobanu¹, C. Croitoru¹, S. Cebanu¹, M. Mogorean¹, V. Bernic², O. Burduniuc²

¹General Hygiene Department, Nicolae Testemitsanu State University of Medicine and Pharmacy

²National Centre of Public Health, Chisinau, the Republic of Moldova

*Corresponding author: elena.ciobanu@usmf.md. Received November 09, 2015; December 07, 2015

Abstract

Background: The health of the Moldovan population requires special attention, due to direct and indirect biological, environmental, behavioural and health factors.

Material and methods: We studied population morbidity from the following localities: town Cupcini, village Bratuseni, village Ruseni (Edinet district); town Vadul lui Voda, town Cricova, village Condrita (municipality Chisinau); village Rosu, village Moscovei, village Huluboaia (Cahul district). Statistical data were taken from the statistical report No 12, for the period from 2012 to 2014.

Results: Morbidity analysis showed that the overall prevalence of increased average values was recorded in the village Bratuseni, Edinet district – 16119.0±247.70/000. In town Vadul lui Voda, Cricova, village Condrița (municipality Chisinau), overall prevalence values ranged within 6967.0±813.0 – 8721.3±375.90/000. Meanwhile, village Rosu, village Moscovei, village Huluboaia (Cahul district), mean values of overall prevalence were included within 2379.8±574.8 and 3219.8±152.70/000. Analysis of the general incidence emphasized that the community in the North recorded mean values within 1370.5±0.7 – 11162.4±190.40/000, localities in the center and south - 1877.8±246.3 – 3149.0±187.80/000 and respectively 899.3±95.0 – 1244.8±339.80/000.

Conclusions: Population morbidity was growing during 2012-2014. Prevalence of diseases of the circulatory, digestive and urogenital systems was higher in central areas and the osteoarticular system diseases – in northern communities. The incidence of cardiovascular, urogenital and osteoarticular diseases was higher in cities from North, and digestive system diseases – in central areas.

Key words: morbidity, incidence, prevalence.

Introduction

The public health problem is increasingly critical in the Republic of Moldova. Health is not a goal itself but a condition for life quality and a condition by which people can participate in economic and social development. The health of the population is an important indicator, both of quality of life and standard of living, and environmental quality also. Health is conditioned by biological factors (genetics, human reproduction), environmental (physical, chemical and social), behavioural and health [1]. The influence of these factors in determining a certain level of health of the population varies: 40% (lifestyle), 20% (environment), 30% (biological factors) and health care sector directly affects with only 10% [2].

The hygienic-epidemiological aspect of problem requires a comprehensive and integrated approach to population health indices. One of the important indices of population health is morbidity that highlights the underlying causal relationships between risk factors and disease. The World Health Organization encourages continuous monitoring of the health status of the population in each state, but also globally, simply because it provides the scientific and economic decisions of intervention to healthcare, disease prevention and control.

Material and methods

We analyzed population morbidity from the selected localities: town Cupcini, village Bratuseni, village Ruseni (Edinet district); town Vadul lui Voda, town Cricova, village Condrita (municipality Chisinau); village Rosu, village Moscovei, village Huluboaia (Cahul district). Morbidity data was taken from the statistical report No 12 "Concerning the number of registered diseases in patients domiciled on the territory of the servicing curative institution" for 2012-2014 period, concentrated at the National Center for Health Management,

local health centers. In order to collect, process and interpret the data we used analytical, descriptive, selective and statistic-mathematical methods.

Results and discussion

For this study we set the major objective to determine the most widespread nosologic forms typical for some localities.

Out of all studied disease classes, according to the International Classification of Diseases, 10th WHO revision, we selected those with a greater likelihood of susceptibility to different environmental factors: biological factors (heredity, demographic characteristics of the population), environmental factors (the physical, chemical and social environment), behavioural factors and health services [3]. Based on multiple studies and arguments in the special literature we highlighted the disease classes, that have a leading position in the structure of morbidity, both of urban and rural population [4, 5, 6]. Based on previous research we selected and studied four classes of diseases: cardiovascular, digestive, urogenital and osteoarticular system diseases. Prior to studying these classes we analysed the disease prevalence and general incidence research.

General prevalence data (table 1) reveal greater values of morbidity averages in the northern localities: town Cupcini, village Brătușeni, village Ruseni (Edinet district). The maximum morbidity was registered in the village Bratuseni – 16119.0±247.7 cases per 10 000 inhabitants. Followed by localities from the center: town Vadul lui Voda, town Cricova, village Condrița (municipality Chisinau), with mean morbidity values included within 6967.0±813.0 – 8721.3±375.9 cases per 10 000 inhabitants. This area is followed by cities in the south: village Rosu, village Moscovei, village Huluboaia (Cahul district), with values between 2379.8±574.8 - 3219.8±152.7 cases per 10 000 inhabitants.

Table 1

General prevalence rate of the population in studied areas (per 10 thousand inhabitants)

Areas		2012	2013	2014	M±ES
North district Edinet	town Cupcini	6708.7	6735.4	6743.1	6729.1±10.43
	village Brătușeni	15780.8	15974.9	16601.6	16119.0±247.7
	village Ruseni	9044.5	10438.8	9189.2	9557.5±442.6
Centre municipality Chisinau	town Vadul lui Vodă	8153.5	9432.1	8578.2	8721.3±375.9
	town Cricova	7879.0	7601.9	7308.7	7596.6±164.7
	village Condița	6042.9	6270.4	8587.8	6967.0±813.0
South district Cahul	village Roșu	3101.8	3035.0	3522.7	3219.8±152.7
	village Moscovei	2111.9	2372.3	2903.1	2462.4±232.8
	village Huluboaia	3529.4	1810.0	1800.0	2379.8±574.8

General morbidity analysis has shown that prevalences of the circulatory, digestive, urogenital and osteoarticular diseases were more common. A higher average of the circulatory diseases was detected in northern localities, within 1831.9±72.2 – 1985.6±64.0 cases per 10 000 inhabitants, in central area 1591.6±97.1 – 2610.7±128.2 cases per 10 000 inhabitants and towns in the south – 1062.5±116.9 – 1445.0±178.0 cases per 10 000 inhabitants.

Digestive system diseases prevailed in areas of the central zone, with values within 1467.4±205.4 – 849.9±16.6 cases per 10 000 inhabitants, while in cities in the north and south, the prevalence was 602.9±124.6 – 1157.8±0.7‰ and 155.8±11.7 – 403.8±17.4‰ respectively.

The frequency of the urogenital diseases recorded raised indices in the central localities, within 618.0±4.7 – 936.5±116.2 cases per 10 000 inhabitants, and the northern and southern localities, between 600.9±1.9 – 631.9±37.5‰ and 83.2±31.7 – 152.4±35.2‰ respectively.

Morbid conditions caused by osteoarticular disease proved to be more common in the northern areas accounting for 262.4±0.7 – 1059.7±196.1‰, while in cities in the south and centre, the values were respectively 75.5±28.1 – 396.2±48.2 and 209.2±25.8 – 477.3±64.6‰.

The average values of general incidence (table 2) have revealed that on the first place we have the studied localities situated in the north, with average values within 1370.5±0.7 – 11162.4±190.4 cases per 10 000 inhabitants. On the second place we have the central area localities with 1877.8±246.3 –

3149.0±187.8 cases per 10 000 inhabitants, and the third place the southern localities with 899.3±95.0 – 1244.8±339.8 cases per 10 000 inhabitants.

The overall incidence is different from the overall prevalence. On the top, in the development and registration of new cases of the disease, were located the diseases of the osteoarticular system with values between 26.7±0.7 – 900.5±217.9 new cases per 10 000 inhabitants in the northern localities, in central area localities 82.6±21.5 – 156.3±30.3 new cases per 10 000 inhabitants, and south – 22.6±6.5 – 236.3±86.5 new cases per 10 000 inhabitants. This class of diseases is followed by circulatory, digestive and urogenital diseases. The highest values of cardiovascular diseases incidence were recorded in village Ruseni (Edinet district, north) – 342.3±998.6‰, in town Vadul lui Voda (municipality Chisinau, central zone) – 147.2±20.5‰ and village Huluboaia (Cahul district, southern zone) – 296.3±93.5‰.

Regarding the incidence of digestive diseases, the highest values were recorded in village Brătușeni (Edinet district, north) – 168.6±21.6‰, in town Vadul lui Voda (municipality Chisinau, central zone) – 486.7±373.7‰ village Huluboaia (Cahul district, south) – 76.5±25.9‰.

Average incidence values of urogenital diseases were higher in village Ruseni (Edinet district, north) – 245.3±0.4‰ in village Condița (municipality Chisinau, central area) – 300.1±42.7‰ and village Huluboaia (Cahul district, south) – 56.6±24.0‰.

Table 2

General incidence rate of the population in studied areas (per 10 thousand inhabitants)

Areas		2012	2013	2014	M±ES
North district Edinet	town Cupcini	1370.5	1371.8	1369.3	1370.5±0.7
	village Bratuseni	11380.7	10783.0	11323.4	11162.0±190.4
	village Ruseni	5615.7	6406.8	5341.8	5788.1±319.3
Centre municipality Chisinau	town Vadul lui Voda	2490.6	2904.5	2444.1	2613.1±146.3
	town Cricova	3501.7	3084.7	2860.7	3149.0±187.8
	village Condița	1674.3	1371.9	1763.9	1585.4±136.2
South district Cahul	village Rosu	740.4	888.7	1068.9	899.3±95.0
	village Moscovei	814.0	771.0	1149.0	911.3±119.5
	village Huluboaia	1854.4	680.0	1200.0	1244.8±339.8

Accessibility to medical care allowed to research and follow the evolution of the population morbidity from the studied localities. As a result of this research, we obtained the structure of the nosological forms that reflect the territory specific morbidity. The obtained information from collected data from the statistical report No 12 "Concerning the number of registered diseases in patients domiciled on the territory of the servicing curative institution" allowed to highlight and distribute the risk factors that determine such health situation.

Results of the analysis also contributed to the study of distribution of diseases and risk factors in the population, depending on the time, space and health of the person. Regarding the morbidity of the most priority classes of diseases, it was established that during 2012-2014 diseases of the circulatory, digestive, urogenital and osteoarticular systems certainly retain their positions among the groups with the highest disease morbidity rates, even by incidence; these groups of diseases tend to increase. The morbidity structure depends on the age too.

With decreasing age the incidence of infectious, parasitic, respiratory diseases decreases and, conversely, increases the number of cases of circulatory, digestive and osteoarticular diseases. The obtained results show a difference between morbidity of nosologic forms in three areas of Moldova.

Conclusions

1. Analysis of the general population morbidity showed that in investigated localities of three geographical areas of the country diseases of the circulatory, respiratory, digestive, urogenital and osteoarticular systems, prevail compared to other classes of diseases, including seasonal ones.

2. Population morbidity in studied areas was steadily increasing in the years 2012-2014.

3. Prevalence of circulatory, digestive and urogenital diseases was higher in localities from central area, but that of the osteoarticular system – in the north. The incidence of cardiovascular, urogenital and osteoarticular diseases was higher in northern localities and digestive system - in the central areas.

4. This study has offered the possibility to conclude that there are some conditions that determine some features of population morbidity, such as biological, environmental, behavioural factors etc.

References

1. Zanoschi G. Sănătate publică și management sanitar [Public health and sanitary management]. Iași, 2003.
2. Domnariu C. Aspecte ale stării de sănătate a populației în mediul rural [Health aspects of the rural population]. Sănătate Publică și Management Sanitar [Public health and sanitary]. 2012;2(2):1-2.
3. Țiganiuc B, Huțu E. Contribuții la studiul modalităților de investigare a problemelor epidemiologice în stomatologie [Contributions to study of the epidemiological investigation of dental problems]. Stomatologie medicală [Medical Dentistry]. 2011;4:42-47.
4. Ostrofeț Gh, Ciobanu E. Unele aspecte igienico-epidemiologice ale morbidității populației Republicii Moldova în relație cu factorii de mediu [Some hygienic-epidemiological aspects of population morbidity of the Republic of Moldova in relation to the environmental factors]. Sănătate Publică, Economie și Management în Medicină [Public Health, Economics and Management in Medicine]. 2010;4:30-31.
5. Opopol N, et al. Prevention and control of non-communicable diseases in the Republic of Moldova. DIPRINT, 2009.
6. Friptuleac Gr. Evaluarea igienică a factorilor exogeni determinanți în geneza litiazei urinare și elaborarea măsurilor de prevenție a ei [Hygienic evaluation of exogenous factors determined in the genesis of urinary lithiasis and development of preventive measures]. Autoreferat al tezei de doctor habilitat în științe medicale [Abstract of the PhD thesis]. 2001.

Acknowledgment

Research reported in this publication was supported by the Fogarty International Center of the National Institutes of Health under Award Number R24TW009568. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Conflict of interest

The authors of this article do not have any conflict of interests.

