



Main Indicators Characterizing the General Morbidity Rate of The Population of The Khorezm Region for The Period 2017 – 2021

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Article History	Abstract
Received: 06 June 2023 Revised: 05 Sept 2023 Accepted: 25 Nov 2023	<p>An analysis of the general morbidity of the population of the Republic of Uzbekistan and the Khorezm region for the period 2017-2021 was carried out to determine the main features of the morbidity of the population and the need for improving preventive measures, considering the characteristics of the region being studied. The analysis was carried out using official statistics from the Ministry of Health of the Republic of Uzbekistan for the period 2017-2021. The incidence was ranked by disease classes according to ICD-10 and analyzed per 100 thousand population. Calculations and graphical analysis were carried out using the Microsoft program Excel. The overall morbidity rate of the population of Uzbekistan over the studied 5-year period (2017-2021) decreased by 19.3%. An analysis of the dynamics of the general morbidity rate of the population of the Khorezm region, as a region leading in terms of morbidity levels, showed that morbidity rates exceeded the republican average by 1.1 times ($p < 0.05$). In the structure of morbidity with a statistically significant difference ($p < 0.05$), there was a predominance of diseases of the respiratory organs, digestive organs, diseases of the circulatory system, blood and hematopoietic organs, and pathological conditions during pregnancy, childbirth and the postpartum period, the proportion of which was 65.4 %.</p>
CC License CC-BY-NC-SA 4.0	Keywords: Dynamics And Structure of Morbidity, Comparative Analysis, Growth Rate

1. Introduction

One of the important tasks of scientific research is to study the dynamics and structure of population morbidity since assessing the prevalence of diseases and the structure of population morbidity makes it possible to determine the most common diseases and identify population groups at high risk. Carrying out a comparative analysis of data for different periods allows us to identify changes in morbidity trends [1, 3, 4,].

The state of health of the population is a key indicator of the well-being of the country, and health indicators such as an increase in morbidity, the dynamics of certain nosology, and the deterioration of medical and demographic indicators of the population are indicators of the quality and level of the environment [6, 9]. Environmental tension, especially in large cities, is one of the factors that significantly affects the health of the population. Chemical environmental pollution, such as industrial emissions, and water and air pollution harm human health [2, 5]. Long-term exposure to chemical pollutants in the environment can lead to various diseases, including respiratory diseases, allergies, and neurological disorders, not excluding cancer [2, 5, 7].

In light of these problems, it becomes clear that problems of human ecology and morbidity in the population are closely related. To more accurately assess the influence of each factor and their contribution to changes in the health status of the population, it is necessary to conduct a systematic analysis of the dynamics of general morbidity to identify trends and factors affecting the health of the population, as well as comprehensive studies taking into account the specific conditions of each region. This will make it possible to develop more effective strategies for preventing diseases and protecting public health based on the results of studying the cause-and-effect relationships of morbidity in areas with different levels of anthropogenic load [1, 8, 9].

The purpose of the study was to determine the long-term dynamics of the general morbidity rate of the population of the Khorezm region and need for improving preventive measures, taking into account the characteristics of the regions of the republic.

2. Materials And Methods

Materials and methods: the work used statistical data from the Ministry of Health for the period 2017-2021. The incidence was ranked by disease classes according to ICD-10 and analyzed per 100 thousand population. Indicators of morbidity dynamics were calculated (average annual growth rate, maximum and minimum values). Calculations and graphical analysis were carried out using the Microsoft program Excel. Student's t-test was used to compare mean values.

3. Results and Discussion

An analysis of the dynamics of morbidity among the population of the Republic of Uzbekistan over the last 5-year period showed that in the period from 2017 to 2021, overall morbidity rates were characterized by a decrease. The level of general morbidity in the population in 2021 reached 67666.6 cases per 100 thousand population, the average value of which was 75898.7 cases per 100 thousand population. At the same time, there is a uniform decrease in the incidence rate over the years and the rate of decline by 2021 was -19.3%. Comparing the morbidity data of the population of the Khorezm region, it can be noted that during the studied period, there was a decrease in the overall morbidity rate by 15.6%. The maximum incidence rate in the region, as well as in the republic, was registered in 2017 - 89855.7 cases per 100 thousand population, while the minimum value of the indicator was observed in 2021, which amounted to 75818.8 cases (Fig. 1). It should be noted that in 2018, the morbidity level of the population of the Khorezm region had a value almost identical to the republican level with a slightly smaller difference of 500 cases per 100 thousand population. Thus, the linear graphs of the dynamics of morbidity presented in the figure indicate that in the Khorezm region morbidity rates were recorded that exceeded the republican values and the average annual values of the region exceeded the republican values 1.1 times ($p < 0.05$).

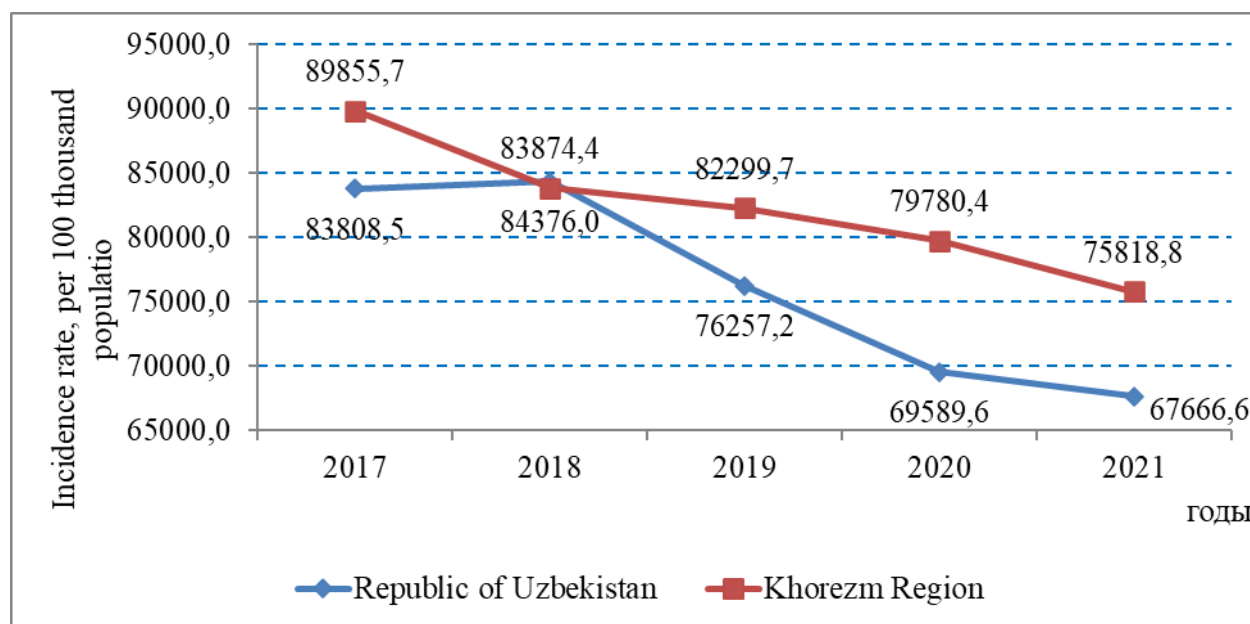


Figure 1. Comparative dynamics of the general morbidity rate of the population of the Republic of Uzbekistan and the Khorezm region for 5 years per 100 thousand population (2017-2021)

Ranking of indicators of general morbidity of the population in the context of regions of the republic made it possible to identify regions leading in the level of general morbidity. Thus, the highest level of general morbidity was observed among the population of Tashkent (140884.8 ± 60.44 cases per 100 thousand population), the Republic of Karakalpakstan (86208.6 ± 12.32), Fergana region (85565.7 ± 26.86), Khorezm (82325.8 ± 18.10) and Samarkand (81524.3 ± 79.88) regions (Table 1).

Table 1. Results of ranking of general morbidity indicators of the population of the republic for 5 years (2017-2021) by region, per 100 thousand population

Name of areas	years		M	$\pm m$	Rank place	Growth rate / % loss _
	2017	2021				
Tashkent	168682.6	117675.2	140884.8	60.44	1	-30.2

Republic of Karakalpakstan	90995, 2	82241.6	86208.6	12.32	2	-9.6
Ferghana_	91162.2	77081.9	85565, 7	26.86	3	-15.4
Khorezm	89855.7	75818.8	82325, 8	18.10	4	-15.6
Samarkand	81326.9	65520, 2	81524.3	79.88	5	-19.4
Andijan	76652.4	77159, 7	76004, 6	4.60	6	0.7
Tashkent	76103, 8	71626.5	73994, 5	8.78	7	-5.9
Navoi	82715.9	59719.9	68016.9	34.65	8	-27.8
Syrdarya	68392, 1	52495.6	60305.2	37.60	9	-23.2
Kashkadarya	67522, 8	49761, 2	59232.6	26.24	10	-26.3
Surkhandarya	66998.5 _	49394.4	58755, 9	34.75	eleven	-26.3
Namangan	63642, 2	52591, 4	58221.8	16.59	12	-17.4
Jizzakh	64087.9	50321.7	56641.4	22.83	13	-21.5
Bukhara	73338.8	42495.2	55308.8	54.66	14	-42.1
By Republic	83808.5	67666, 6	75898.7	28.10		-19.3

An analysis of the structure of the general morbidity rate of the population of the republic showed the predominance of diseases of the respiratory system - 22.9% (17374.2 cases per 100 thousand population), blood and hematopoietic organs - 16% (12131.8 cases per 100 thousand population), digestive organs - 12.3% (9372.4 per 100 thousand population), circulatory system diseases - 8.7% (6622.9 cases per 100 thousand population) And endocrine system - 6.3% (4805.3 cases per 100 thousand population), providing 66.3% of the causes of morbidity in the population of the republic over the studied period.

A comparative analysis of the morbidity structure of the population of the Khorezm region made it possible to determine the coincidence of the leading nosologies in the morbidity structure (p <0.05) (Table 2).

Table 2. Ranking of average levels of general morbidity indicators in the Republic of Uzbekistan and Khorezm region for the period 2017-2021

Disease classes	General morbidity rates, per 100 thousand population				Rank place		P
	I *		II **		I *	II **	
	M	±m	M	±m			
I. Some infectious and parasitic diseases	522.9	1.14	1729.8	5.26	eleven	13	p<0.05
II. Neoplasms	2082.8	1.25	470.3	3.24	16	16	p<0.05
III. Diseases of the blood and blood-forming organs	12131.9	15.6	6805.9	10.18	2	4	p<0.05
IV. Endocrine system diseases	4805.3	7.08	5269.8	3.75	5	6	p<0.05
V. Mental disorders and behavioral disorders	1237.1	6.15	1092.3	1.77	14	15	p<0.05
VI. Nervous system diseases	962.9	28.45	1987.4	30.35	15	12	p<0.05
VII. Diseases of the eye and its adnexa	2940.1	5.1	2416.5	6.89	9	10	p<0.05
VIII. Diseases of the ear and mastoid process	2020.2	5.87	2550.1	3.96	12	9	p<0.05
IX. Diseases of the circulatory system	6622.9	3.2	7208.3	1.94	4	3	p<0.05
X. Respiratory diseases	17374.2	14.7	22219.1	8.57	1	1	p<0.05
XI. Digestive diseases	9372.4	13.41	11198.0	15.21	3	2	p<0.05
XII. Diseases of the skin and subcutaneous tissue	2194.9	9.39	2069.8	5.88	10	eleven	p<0.05
XIII. Diseases of the musculoskeletal system and tissue connections	1671.2	4.37	1750.6	5.12	13	14	p<0.05
XIV. Diseases of the genitourinary system	4646.1	7.11	4156.9	6.88	6	8	p<0.05
XV. Pregnancy, childbirth, postpartum period	3245.4	13.76	6507.5	19.31	8	5	p<0.05

XVI. Certain conditions arising in the perinatal period	517.2	2.41	367.2	0.62	17	17	p<0.05
XVII. Congenital anomalies	214.3	1.99	165.3	0.35	18	18	p<0.05
XVIII. Symptoms, signs not classified elsewhere	79.3	3.2	84.0	20.62	19	19	p>0.05
XIX. Injuries, poisoning	3257.8	5.58	4412.1	2.00	7	7	p<0.05
Total diseases	75898.7	28.1	82461.1	18.1			p<0.05

I* - Republic of Uzbekistan

II** - Khorezm region

According to the data in Table 2 and the graphical representation of Figure 2, in the regional structure, as well as in the structure of morbidity in the population of the republic, there are five leading classes of diseases out of 19 studied.

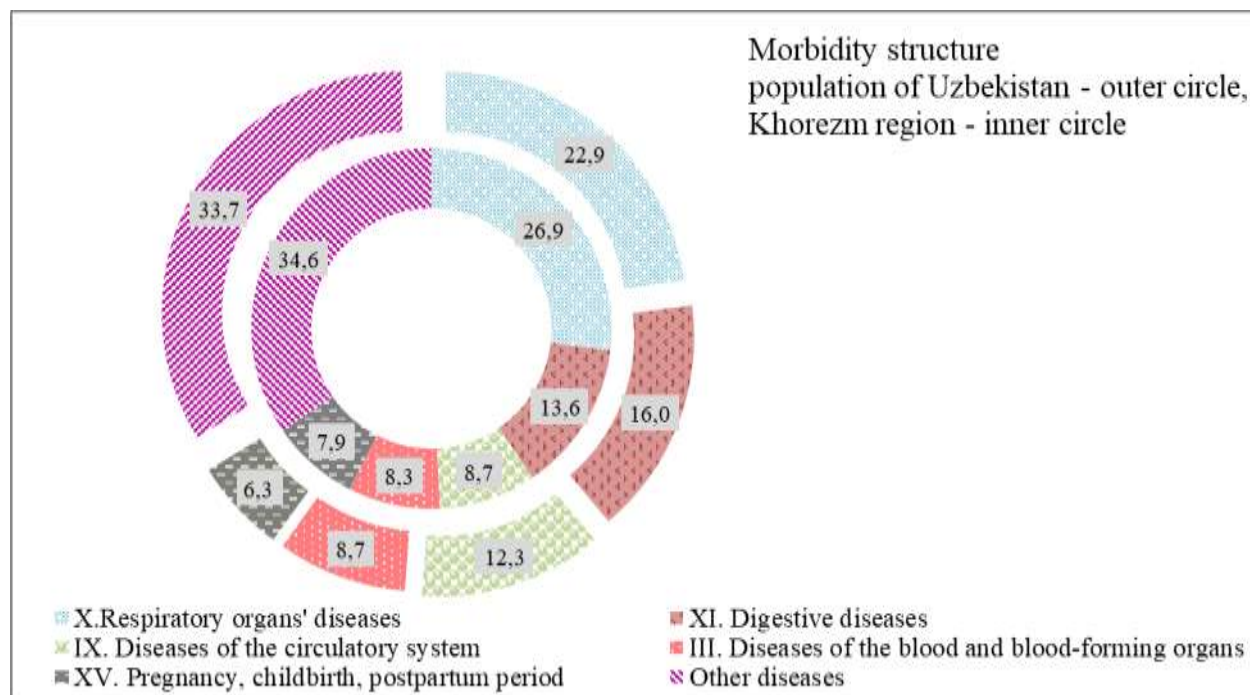


Figure 2. Structure of the general morbidity rate of the population of the Republic of Uzbekistan and the Khorezm region for 5 years per 100 thousand population (2017-2021), %

The greatest influence on the increase in morbidity among the population of the Khorezm region was caused by diseases of the respiratory system - 26.9% with a statistically significant difference of 3.0% ($p<0.05$), the digestive system - 13.6% with a 2.4% significantly lower value ($p<0.05$), blood circulation - 8.7% by 3.6% with a significantly lower value ($p<0.05$), diseases of the blood and hematopoietic organs - 8.3% and pathological conditions during pregnancy and childbirth - 7, 9% with a small but significantly significant difference ($p<0.05$), providing 65.4% of the causes of morbidity in the population of the Khorezm region for the studied period of time.

4. Conclusion

The analysis of the general morbidity rate of the population of the republic for the period 2017-2021 made it possible to identify the corresponding patterns in their dynamics and structure. The overall morbidity rate of the population of Uzbekistan over the studied 5-year period (2017-2021) decreased by 19.3%. An analysis of the dynamics of the general morbidity rate of the population of the Khorezm region, as a region leading in terms of morbidity levels, showed that morbidity rates exceeded the republican average by 1.1 times ($p < 0.05$). In the structure of morbidity with a statistically significant difference ($p < 0.05$), there was a predominance of diseases of the respiratory organs, digestive organs, diseases of the circulatory system, blood and hematopoietic organs, and pathological conditions during pregnancy, childbirth and the postpartum period, the proportion of which was 65.4 %.

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