

## STATISTICAL ANALYSIS OF MORBIDITY OF THE POPULATION OF THE REPUBLIC OF KAZAKHSTAN IN THE LAST 20 YEARS

Mussabekov M.B., Yerlan A.E., Orazalina A.S.

*NCJSC «Semey Medical University», Department of Molecular Biology and Medical Genetics named after Academician of NAS RK Raissov T.K., Semey city*

**Key words:** *Statistical analysis, classes of the disease, respiratory system, population morbidity.*

**Resume:** *Nowadays, the health of the population of Kazakhstan and the whole world in general is one of the significant issues. The article demonstrates the results of statistical analysis of the morbidity of the population of the Republic of Kazakhstan over the past 20 years.*

**Резюме:** *в настоящее время здоровье населения Казахстана и всего мира в целом является одним из значимых вопросов. В статье представлены результаты статистического анализа заболеваемости населения Республики Казахстан за последние 20 лет.*

**Relevance.** A healthy population of each country is one of the priorities and goals of every state. However, not all countries have a favorable standard of living due to a number of different diseases. The morbidity of the population of the Republic of Kazakhstan is one of the most actual medical and social issues at this time.

**Aim:** conduct a statistical analysis of the morbidity of the population of the Republic of Kazakhstan over the past 20 years.

**Material and methods.** The indicators of official statistics of the Ministry of Health of the Republic of Kazakhstan for 1999, 2004, 2009, 2014 and 2019 are analyzed.

Study design: retrospective analysis.

**Results and discussion.** In 2019 the total number of registered diseases was 104133.8 per 100,000 people. This is 1.3 times more than in 1999 (81202.2 cases per 100,000 people), almost same number in 2004 (99627.7 cases per 100,000 people). However, it should be noted that in 2009 the total number of morbidities in the population by disease class was 105873.4, and this is more than in 2019, while in 2014 this number reached 100337.1 per 100,000 people [1-5].

Among the general morbidity of the population of the Republic of Kazakhstan by classes of diseases registered in treatment and prevention organizations, it is worth to mention diseases of the respiratory system. Respiratory system disease is serious problem both in the world and in the Republic of Kazakhstan too. In 2019, the number of cases was 28076.4 per 100,000 people. The peak incidence was recorded in 2009 (30011.2 cases per 100,000 people), which is 1,3 times more than in 1999 (22636.7 cases per 100,000 people). Since 2009, the incidence rate of the respiratory system began to decline, but it still prevailed among the total incidence [1, 3, 5].

Congenital anomalies (developmental defects), deformations and chromosomal disorders have the lowest rate among all classes of diseases. In 2019, this indicator had 950.7 cases per 100,000 people, which is 2,4 times more than in 1999 (394.3 cases per 100,000 people), almost 2 times more than in 2004 (502.9 cases per 100,000 people), and 1,6 times more than in 2009 (585.9 cases per 100,000 people), and also more than in 2014 (635.9 cases per 100,000 people) [1-5].

Table 1 - Total morbidity of the population of the Republic of Kazakhstan by classes of diseases registered in medical and professional organizations by year (per 100 thousand people of the population)

<b>Year</b> <b>Systems</b>	<b>1999</b>	<b>2004</b>	<b>2009</b>	<b>2014</b>	<b>2019</b>
<b>Respiratory system</b>	22636.7	26999.4	30112.5	28233.8	28076.4
<b>Congenital anomalies (developmental defects), deformations and chromosomal disorders</b>	394.3	502.9	585.9	635.9	950.7
<b>Infectious and parasitic diseases</b>	3933.2	3514.9	2531.8	2296.8	2084.7
<b>Neoplasms</b>	1540.4	1679.4	1670.9	1685.8	2333.0
<b>Blood circulatory diseases</b>	6289.0	8504.2	10777.7	13472.7	16982.9
<b>Urogenital system diseases</b>	6320.3	8417.2	8297.1	7250.8	8449.2

The level of childhood morbidity has significantly increased in the period from 1999 to 2009. The number of sick children from 0 to 14 years old in 2009 reached to 103643.1 (per 100,000 people), which is 1,5 times more than in 1999 (68717,7 cases per 100,000 people) [1-3]. In the period from 2014 to 2019, the general level of sick children from 0 to 14 years old significantly decreased compared to the period from 2004 to 2009 (in 2014 and 2019 this indicator was 86463.1 and 87177.8, respectively). In addition, in 2019, among the entire urban population in the city of Pavlodar, the largest number of sick children from 0 to 14 years old was registered (174632.7 cases per 100,000 people), while the lowest number of cases was registered in the city of Atyrau 3635.7 cases per 100,000 people [4,5].

Table 2 – Number of sick children and adolescents by age in different years (per 100 thousand people of the population)

<b>Year</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>
<b>A</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
				86463.1	

Adolescents aged 18 were also undergo to diseases of different classes, but at the same time, negative growth dynamics were noticed, starting from 2009 to 2014. In 2009 this indicator was 43435.7 per 100,000 people, while in 2014 it was 37079.7 per 100,000 people [1,2]. However, in 2019 the overall incidence of adolescents aged 18 years in the Republic of Kazakhstan had an indicator of 40007.2 per 100,000 people of the corresponding population [5]. Between all cities, Mangystau had the largest number of sick

adolescents at the age of 18 in 2009 (66,216.3 cases per 100,000 people), and in 2014, Astana prevailed in this indicator with a total of 46895.2 cases of diseases per 100,000 people and already in 2019, Mangystau again showed an increase in this indicator (60008.3 cases per 100,000 people) [3-5].

**Conclusion:** the incidence rate of the population of the Republic of Kazakhstan is growing every year. The indicators of diseases of the respiratory and circulatory system have especially increased among children. The growth in the incidence rate in the Republic of Kazakhstan has increased due to the increase in the quality of laboratory and instrumental diagnostic methods. The statistical results showed the relevance of this problem and require further action.

#### References

1. The health of the population of the Republic of Kazakhstan and the activities of health care organizations in 1999. Statistical materials. - Almaty, 2000. - p. 28
2. Health of the population of the Republic of Kazakhstan and the activities of health care organizations in 2004. Statistical collection. - Astana, 2005. – p.19.
3. The health of the population of the Republic of Kazakhstan and the activities of healthcare organizations in 2009. Statistical collection. - Astana, 2010 .– p. 25.
4. Health of the population of the Republic of Kazakhstan and activities of healthcare organizations in 2014. statistical collection. - Astana, 2015. - C.43.
5. Health of the population of the Republic of Kazakhstan and activities of healthcare organizations in 2019: Statistical collection. - Nur-Sultan, 2020.– p. 31.