



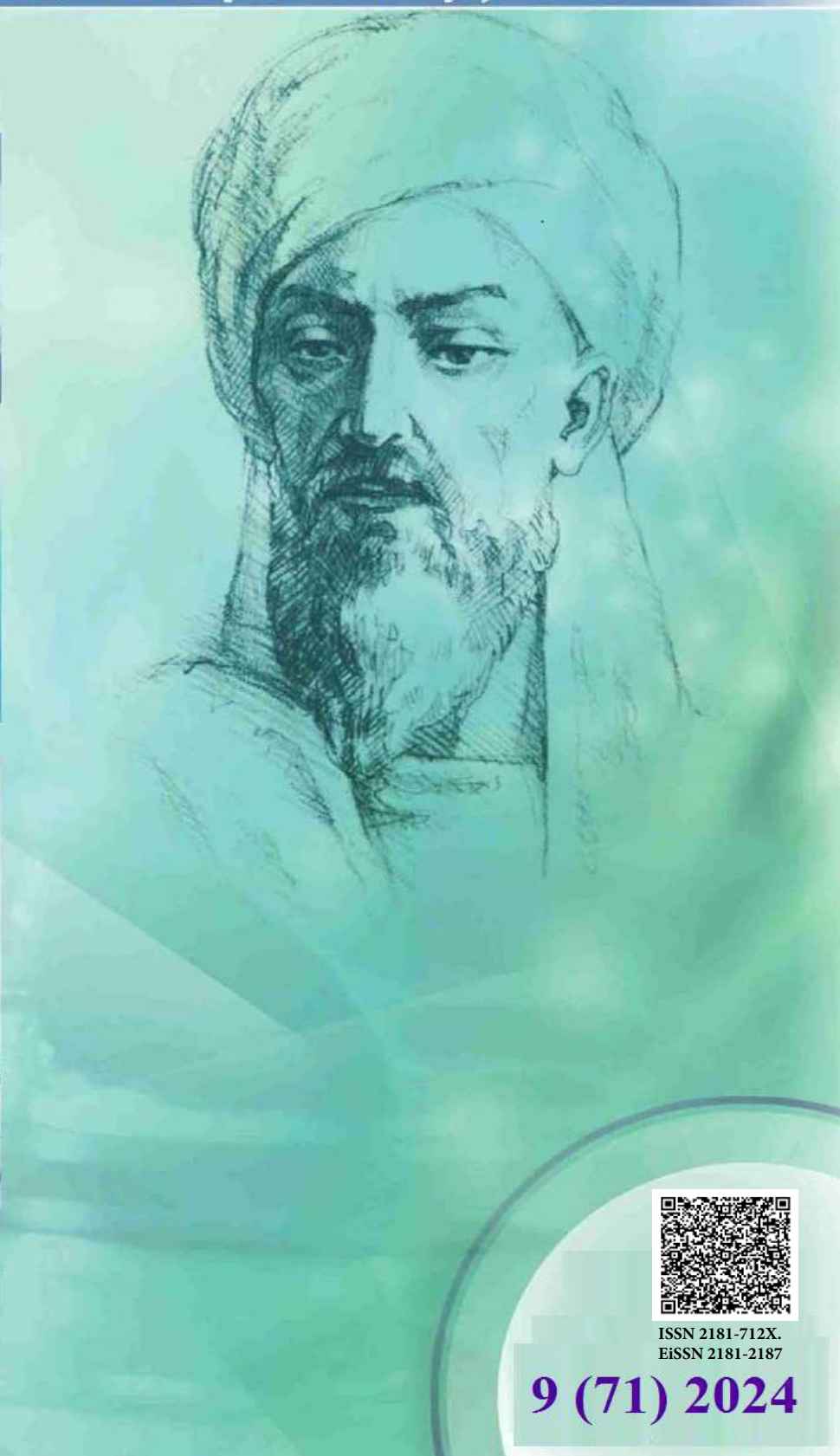
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ТИББИЁТДА ЯНГИ КУН НОВЫЙ ДЕНЬ В МЕДИЦИНЕ NEW DAY IN MEDICINE

*Илмий-рефератив, маънавий-маърифий журнал
Научно-реферативный,
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ISSUES OF THE ENVIRONMENTAL SITUATION AND THE HEALTH OF THE POPULATION OF THE CITY OF SAMARKAND

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✓ Resume

Optimization of air pollution, climate change, widespread use of energy-efficient energy sources, water pollution, soil condition, biodiversity conservation, noise reduction, prevention of pollution of urban areas with industrial and household waste, as well as public health promotion, aimed at reducing maternal mortality by one third by 2030, reducing mortality newborns and children under the age of five have doubled, reducing the incidence of tuberculosis and HIV in the population, ensuring the fight against hepatitis, waterborne diseases and other infectious diseases, as well as reducing premature mortality by 30 percent among the population from cardiovascular, oncological diseases, diabetes mellitus and chronic respiratory diseases.

Keywords: ecology, pollution, climate, waste, morbidity, environment, Samarkand city.

ВОПРОСЫ ЭКОЛОГИЧЕСКОЙ СИТУАЦИИ И ЗДОРОВЬЯ НАСЕЛЕНИЯ ГОРОДА САМАРКАНД

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✓ Резюме

Оптимизация загрязнения воздуха, изменение климата, широкое использование энергоэффективных источников энергии, загрязнение воды, состояние почвы, сохранение биоразнообразия, снижение шума, предотвращение загрязнения городских территорий промышленными и бытовыми отходами, а также укрепление здоровья населения, направленные на снижение материнской смертности на одну треть к 2030 году, снижение смертности новорожденных и детей в возрасте до пяти лет в два раза, снижение заболеваемости туберкулезом и ВИЧ среди населения, обеспечение борьбы с гепатитами, болезнями, передающимися через воду, и другими инфекционными заболеваниями, а также снижение на 30 процентов преждевременная смертность населения от сердечно-сосудистых, онкологических заболеваний, сахарного диабета и хронических заболеваний органов дыхания.

Ключевые слова: экология, загрязнение, климат, отходы, заболеваемость, окружающая среда, город Самарканд.

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✓ **Rezyume**

Atmosfera havosining ifloslanishini optimallashtirish, iqlim o'zgarishi, energiya tejamkor energiya manbalaridan keng foydalanish, suvning ifloslanishi, tuproq holati, bioxilma-xillikni saqlash, shovqinni kamaytirish, shaharlarning sanoat va maishiy chiqindilar bilan ifloslanishining oldini olish, shuningdek, aholi salomatligini mustahkamlash. 2030 yilgacha onalar o'limini uchdan birga qisqartirish, yangi tug'ilgan chaqaloqlar va besh yoshgacha bo'lgan bolalar o'limini ikki baravarga kamaytirish, aholi orasida sil va OIV bilan kasallanish darajasini pasaytirish, gepatit, suv orqali yuqadigan kasalliklar va boshqa yuqumli kasalliklarga qarshi kurashni ta'minlash, shuningdek yurak-qon tomir, onkologik kasalliklar, qandli diabet va surunkali respirator kasalliklardan aholi o'rtasida erta o'lim 30 foizga oshdi.

Kalit so'zlar: ekologiya, ifloslanish, iqlim, chiqindilar, kasallanish, ekologiya, Samarqand shahri.

Relevance

In the modern era of globalization, the processes of urbanization in the world are becoming more and more intense. Of particular importance are the issues of improving the environmental situation in cities, ensuring environmental sustainability, as well as improving the quality of life of the urban population. Within the framework of the 11th United Nations Sustainable Development Goal for the period up to 2030, "Ensuring openness, security, resilience and environmental sustainability of cities and human settlements", tasks have been identified to create a more stable, safe and comfortable urban environment for the population, taking into account social, economic and environmental aspects.

The health of citizens is an important indicator of the environmental well-being of a particular city. In the modern world, there is an increase in morbidity associated with man-made environmental pollution, especially atmospheric air. This is a wake-up call that needs to be taken into account when developing environmental and health strategies.

Man-made air pollution includes emissions from industrial enterprises, motor vehicles, as well as other sources that adversely affect the state of the environment. This pollution causes serious problems such as allergic reactions, in particular respiratory allergies, carcinogenicity (the ability or tendency to form malignant tumors), mutagenicity (the ability to cause genetic changes), teratogenicity (the ability to cause disruption of the embryogenesis process, leading to congenital anomalies), fibrogenicity (the ability of dust to cause fibrosis).

Negative chemicals affecting health include heavy metals, organic gases, harmful gases, chlorides, fluorides, chlorine-containing compounds, fluorinated compounds, hydrocarbons, iron, lead, nickel, cadmium and others. Persistent organic substances, heavy metals, as well as air pollution by small particles and chemicals can lead to serious diseases of the respiratory tract, cardiovascular system and other organs. Consequently, environmental factors have a significant impact on human physical and mental health, and medical and geographical research is becoming increasingly relevant in light of the growing deterioration of the environment. Given the growing environmental problems, such research is becoming particularly important in the field of science and health. They make it possible to identify problem areas and risk factors, as well as develop more effective strategies for the well-being of the population and sustainable development of territories.

The health indicator of the population is measured through the level of morbidity, which is determined by the number of visits to medical institutions. This indicator reflects the appearance, spread and nature of the development of diseases in the general population, and also provides information on both the general incidence and specific categories of diseases.

The medical and geographical assessment of the morbidity status of the population of the city of Samarkand was carried out in the context of 12 family polyclinics of the city based on statistical data from the Samarkand City Medical Association, the Samarkand Regional Health Department and the State Statistics Committee of the Republic of Uzbekistan for the period from 2010 to 2022. Special attention was paid to a group of diseases that are caused by environmental factors. This group includes: diseases of the respiratory system, diseases of the blood, hematopoietic organs and individual disorders involving the immune mechanism, diseases of the circulatory system, diseases of the endocrine system, eating disorders and metabolic disorders, neoplasms, digestive diseases, etc.

In recent years, the general morbidity of the population in the studied city has increased as a result of the deterioration of the environmental situation, changes in social protection of the population and a number of similar reasons. For example, if in 2010 the incidence of the population per 10,000 people

was 691.8 cases, then in 2019 it amounted to 947.4 cases, and in 2021 it reached a maximum of 1184.3 cases.

An analysis of the dynamics of morbidity in 2010-2022 showed a decrease in the incidence of certain infectious diseases, congenital anomalies, deformities and chromosomal disorders in the population. There has been an increase in diseases such as respiratory diseases, diseases of the circulatory system, diseases of the endocrine system, eating disorders and metabolic disorders, diseases of the blood, hematopoietic organs and individual disorders involving the immune mechanism, as well as an increase in the number of neoplasms.

Statistical data for three years (2020, 2021 and 2022) were also collected to analyze the overall incidence of polyclinics in the city of Samarkand. Based on the data in table 1, it can be concluded that some clinics were able to reduce the incidence, while in some clinics it remained stable or even increased. Polyclinic No. 11 is distinguished by the fact that it was established in 2022, the incidence for this year was relatively high (813.1 people).

Table 1.

The total morbidity of the population of the city of Samarkand in the period from 2020-2022 in the context of family polyclinics

The number of the family clinic	2020	2021	2022
From P No. 1	506,8	541,3	558,0
From P No. 2	780	734	726,9
From P No. 3	842,3	820,5	527,6
From P No. 4	943,7	896,8	829,4
From P No. 5	606,9	447,4	684,5
From P No. 6	1054	956,7	959,8
From P No. 7	1858,5	1713	846,1
From P No. 8	650,6	697,6	692,4
From P No. 9	937,2	789,3	804,4
From P No. 10	544,5	451,8	490,8
From P No. 11	-	-	813,1
From P No. 12	1014,9	1015,5	1029,1
Total	893,7	844,1	728,8

We have established that respiratory diseases are leading in the structure of the general morbidity of the population in the city of Samarkand. It should be emphasized that in the period from 2010 (78.1 cases per thousand of the population were registered) to 2021 (138.8 cases per thousand of the population were registered), there is an alarming growth trend in respiratory pathologies.

Atmospheric pollution, noise, vibration, living conditions, electromagnetic fields, drinking water quality, biogeochemical features of the area, pollution with pesticides and pesticides, as well as climatic conditions negatively affect the general condition of the cardiovascular system and increase the risk of developing such diseases. Diseases of the cardiovascular system represent an important medical and social problem for the modern healthcare system. These diseases occupy the first place among all other diseases in terms of prevalence worldwide, and they are also the main cause of human death.

Based on the data in Appendix 1, it can be concluded that mortality from diseases of the circulatory system is higher than the total mortality in the city of Samarkand in the period from 2020 to 2022. Mortality from diseases of the circulatory system accounts for a significant proportion of the total mortality in the considered interval.

A general analysis of the presented data in table 2 shows that in 2019 there was a significant increase in the incidence of all categories of cardiovascular diseases.

According to the results of population studies, more than 26% of residents over the age of 40 suffer from arterial hypertension. The high prevalence of this disease is associated with the risk of serious complications such as stroke, acute myocardial infarction, heart and kidney failure.

Hypertension remains one of the most common cardiovascular pathologies (Fig.1), a particularly sharp spike in morbidity was observed in 2019 (43948 people), followed by a decrease in 2020 (25580 people).

Table 2

Comparative analysis of indicators of nosological forms of diseases of the circulatory system of the population of the city of Samarkand for 2018-2020.

Indicators and nosological forms	2018	2019	2020
Diseases have been registered	49494	98679	50756
Of them with a newly diagnosed diagnosis	9374	18745	12007
Taken under medical supervision	680	1323	378
Diseases of the acute period of the cardiovascular system	201	436	158
Chronic diseases of the cardiovascular system	1458	2921	1622
Hypertension	21966	43948	25580
Coronary heart disease	10825	22599	11182
Angina pectoris	5635	11562	6753
Acute myocardial infarction	131	297	234
Repeated myocardial infarction	36	83	35
Chronic coronary heart disease	3457	7211	2532

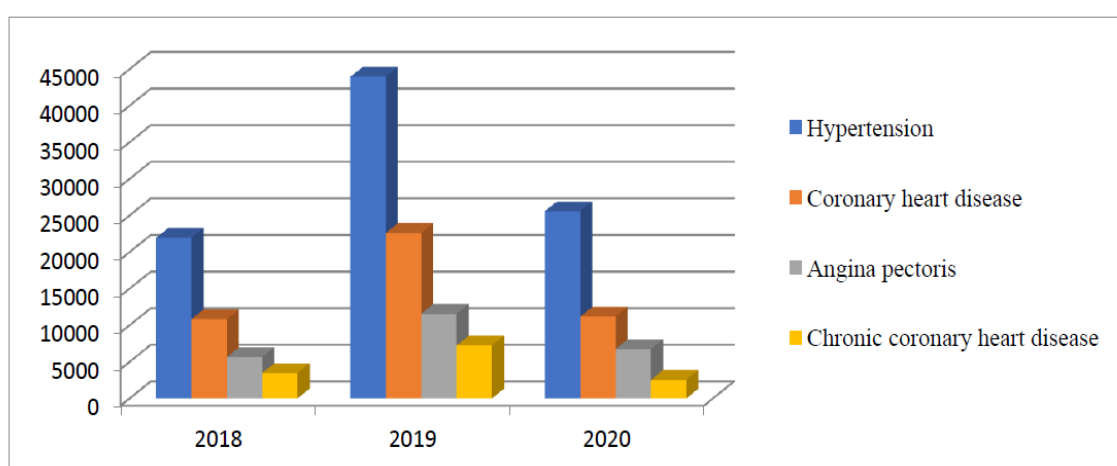


Figure-1. Indicators of nosological forms of diseases of the cardiovascular system of the population of Samarkand in dynamics for 2018-2020. (per 1,000 people).

In the city of Samarkand in the period from 2020 to 2022, in the context of family polyclinics, the following conclusions can be drawn: family polyclinic No. 8 has high rates of cardiovascular diseases and demonstrates their growth from 2020 to 2022, family polyclinics No. 9 and No. 10 have high morbidity rates, but with some decrease from 2020 until 2022.

The dynamics of the incidence of endocrine diseases, eating disorders and metabolism in Samarkand is also characterized by an upward trend from 8.5 registered cases in 2013 to 32.9 cases per thousand inhabitants in 2021 (Fig. 2). The endocrine system plays an important role in regulating a variety of physiological processes in the body, including metabolism, growth and development, reproduction, stress response, balance of water and electrolytes. There is a proven link between environmental factors and the occurrence of endocrine diseases. Environmental exposure to toxic substances that can mimic the effects of hormones or affect hormone secretion and receptors is called an endocrine disorder.

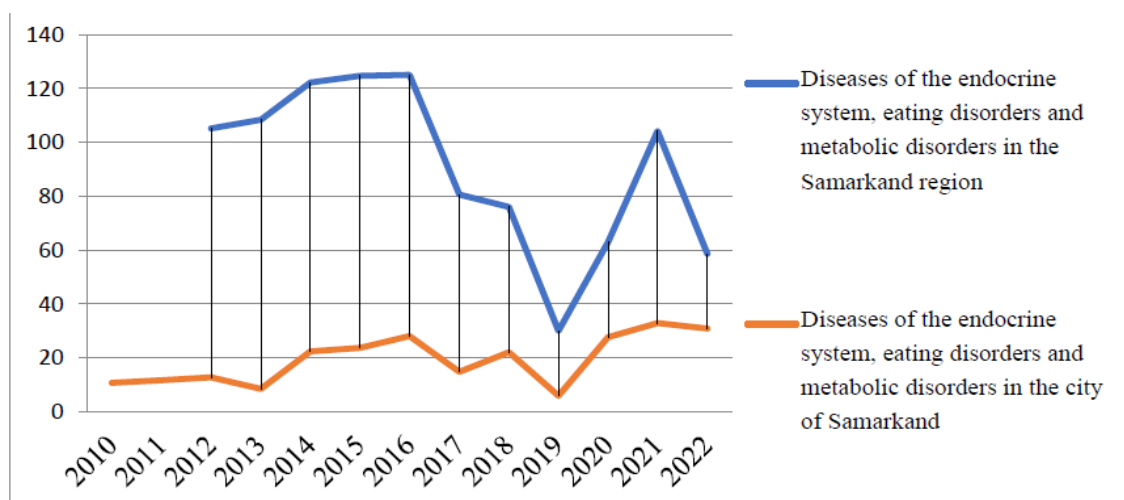


Figure 2. Dynamics of patients with diseases of the endocrine system, eating disorders and metabolic disorders in the Samarkand region and the city of Samarkand (per 1,000 people).

Endocrine disruptors include a variety of chemical compounds such as pesticides, phthalates (which are used in plastic production), bisphenols, polychlorinated biphenyls (PCBs) and others. Long-term exposure to endocrine disruptors contributes to the development of various diseases and conditions, including reproductive problems, metabolic disorders, infertility, thyroid diseases, diabetes, cancer, etc.

In recent years, neoplasms have been one of the most common types of diseases in the city of Samarkand. Types of oncopathology usually do not occur on healthy soil, they are preceded by long-term pathological processes caused by a variety of etiological factors. The number of people affected by this disease was 1.7 in 2012, 4.9 in 2017, 1.7 in 2020, 3.5 in 2022 (Fig.3). According to specialists of oncologists, it has been established that the origin of diseases such as neoplasms of the mouth, nasopharynx, upper respiratory tract, bronchi, trachea, lungs, etc., directly depends on factors such as atmospheric air pollution with carcinogenic substances.

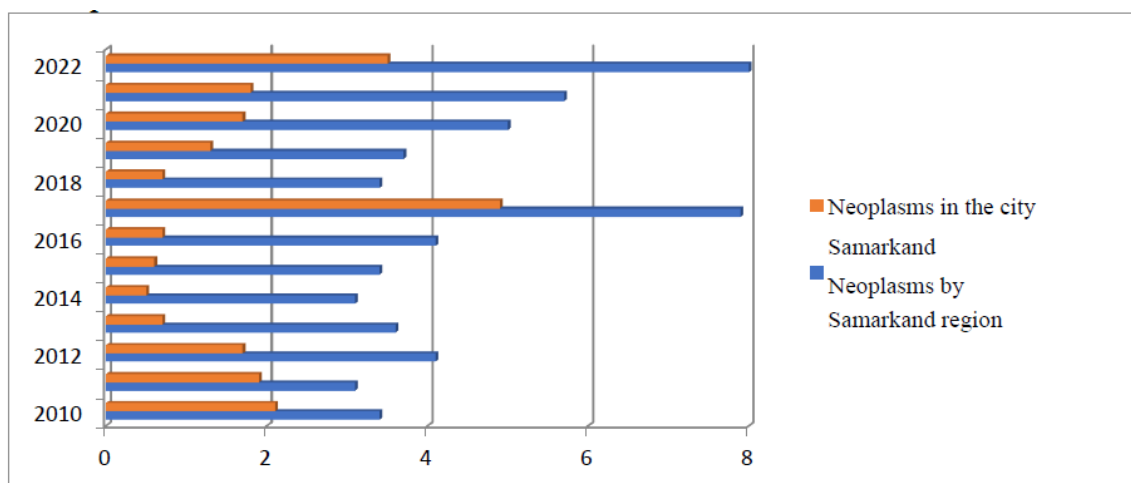


Figure 3. Graph of the dynamics of morbidity of the population of the city of Samarkand with neoplasms for 2010-2022. (per 1,000 people).

The city of Samarkand is characterized by the highest incidence of malignant neoplasms by region: 262.2 in 2005, 322.8 in 2010 and 295.8 in 2015. As can be seen from these figures, the number of cases of this disease continues to grow. When analyzing statistical data in the context of 12 family polyclinics in the city of Samarkand, with a newly diagnosed diagnosis, this type of disease affected 252 people in 2020, 223 people in 2021 and 250 people in 2022. Most cases were recorded in 7 family polyclinics. If in 2020 the number of this terrible disease in this clinic was 18 people, then in 2022 37 people.

Mortality from malignant neoplasms in the city of Samarkand shows fluctuations in different years and in different family clinics. An analysis of the data in Appendix 2 shows that the total mortality from malignant neoplasms in the city of Samarkand decreased from 174 cases in 2020 to 191 cases in 2021, and then increased to 206 cases in 2022. Family polyclinics No. 1, No. 2, and No. 3 have relatively low mortality rates from malignant neoplasms in 2020. but some of them increased in 2022. Family polyclinics No. 4, No. 7, and No. 9 have higher mortality rates from malignant neoplasms, and they also show changes over the years. The increase in the number of malignant tumors in the human body is directly related to urban air pollution.

Among the various carcinogenic factors, an increase in the level of dust and smoke in cities deserves special attention, associated with such factors as asphaltting roads, particle emissions from incomplete combustion of coal and liquid fuels from industrial enterprises and motor vehicles. It is important to note that smoke particles contain a large amount of carcinogenic substances, which has been confirmed by numerous experiments.

An unfavorable trend is also observed for diseases of the nervous system. In the city, the number of cases of this class of diseases per thousand people with a newly diagnosed diagnosis was 9.9 cases in 2013, 10.0 in 2016, 73.2 cases in 2021 (Fig.4).

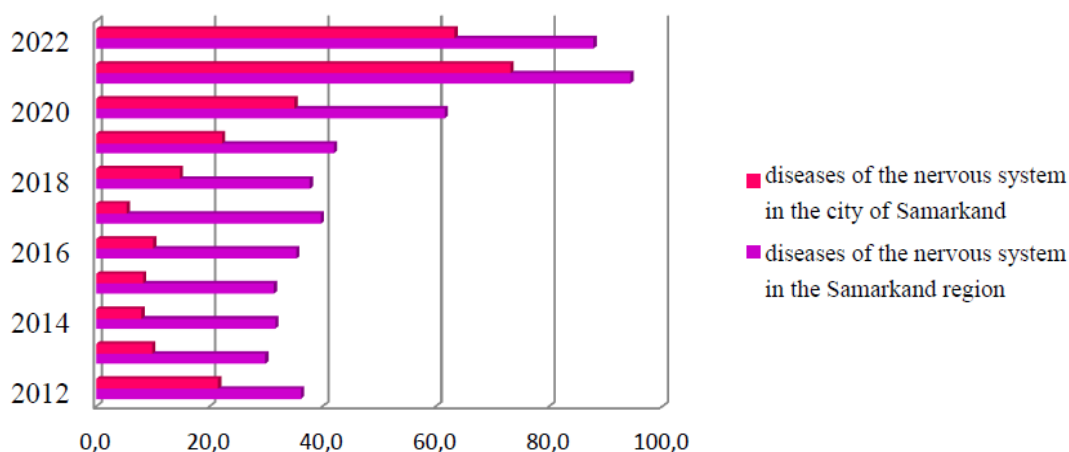


Figure 4. Graph of the dynamics of morbidity of the population of the Samarkand region and the city of Samarkand with diseases of the nervous system for 2012-2022. (per 1,000 people).

These figures show that in the period from 2013 to 2021 there was a significant increase in the incidence of diseases of the nervous system. The incidence rate has increased more than 7 times during this time. From this, it can be concluded that urbanization and urban life have a complex effect on diseases of the nervous system, since cities have higher levels of environmental pollution, and urban life is often characterized by higher levels of stress and tension.

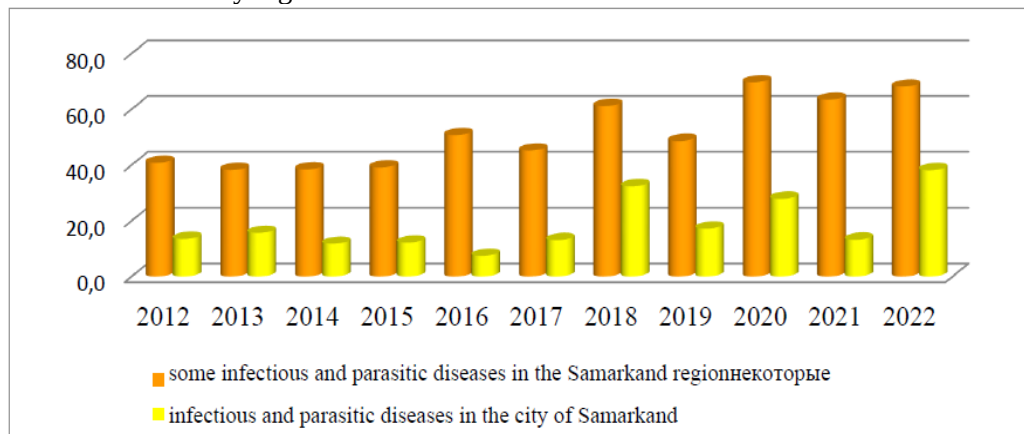


Figure 5. The dynamics of the incidence of certain infectious and parasitic diseases in the population of the Samarkand region and the city of Samarkand in 2012-2022. (per 1,000 people).

Along with this, infectious and parasitic diseases pose a threat to residents of the city of Samarkand. The number of cases of such diseases has increased significantly, starting from 7.4 cases in 2016, reaching 32.3 cases in 2018 and up to 38.1 cases in 2022. The increase in the number of cases of infectious and parasitic diseases in the city is due to various factors, such as insufficient sanitary conditions, low vaccination rates, migration, antimicrobial resistance, environmental changes, insufficient medical care and insufficient education about hygiene standards (Fig.5).

Conclusion

Thus, the analysis of medical and geographical factors shows the need to take measures to improve the environmental situation in the city of Samarkand and improve housing conditions, as well as effectively combat air and water pollution. These measures can help reduce morbidity and improve the general health of the population.

LIST OF REFERENCES:

1. Salomova F.I., Sadullayeva H.A., Akhmadaliev N.O., Samigova N.R., Kosimova H.T.// "Contamination of the atmosphere with nitrogen compounds as an etiological factor in the development of cardiovascular diseases of the population of Tashkent": Monograph //Tibbiyot nashriyoti matbaa uyi LLC.T., 2022; 85 p.
2. Zaynutdinova D. The influence of natural and social conditions on the state and quality of the urban environment //Economy and society. 2022;4(95):565-568.
3. Simon D. (2016). The potential of the green economy and urban greening for addressing urban environmental change. In K.C. Seto, W.D. Solecki, C.A. Griffith (Eds.). The Routledge Handbook of Urbanization and Global Environmental Change (pp. 421 – 440). London: Routledge.
4. Park R. E. The urban community as a spatial pattern and a moral order // park R. E. Human communities: the city and human ecology. //Glencoe (III): the free Press, 1952; P. 165-177
5. Nilufar K. Komilova, Latipov Normurod Faxriddin o'g'li, Zaynutdinova Dilnoza Kaxramonovna, Egamkulov Husniddin Erkaboyevich. Analysis of existing methodological approaches in assessing the quality of the environmental condition of cities. //«Nature and Science» AcademArena 2022;14(12):18-27.
6. N.Kamilova, K.Egamkulov, M.Khamroev, K.Khalilova, D. Zaynutdinova. The impact of urban air pollution on human health. Medical prospects. //Scientific journal of the DSM. 2023;28/3(23):170-179.
7. Komilova N.K., Zainutdinova D.K. Istoriko-geograficheskie osnovi izucheniya urboekologicheskoy situatsii i zdorovya naseleniya. Materials of the 4th Republican scientific and practical conference on the topic of current problems and solutions for teaching Natural Sciences. //Bukhara Polytechnic Institute, April 5, 2023; 28-33 b.
8. Kamilova N.K., Zainutdinova D.K., Egamkulov H.E. Some aspects of the ecological state of cities and human health (on the example of the city of Samarkand and Gulistan). //“Economics and Society” www.iupr.ru. "Institute of Management and Socio-Economic Development", Saratov, Russia. ISSN 2225-1545. 2022;12(103):398-409.
9. Kobilov E.E., Uralov Sh.M., Kholikova G.A. On the influence of physical education classes on the quality of life of students. Washington University in St. Louis Danforth Campus Central Eurasian Studies Society International scientific-online Conference on innovation in the modern education system Part 19 Washington, USA 22 June 2022. 350 bet.
10. Kobilov E.E., Khudoyberdiev Zh.R., Zhuraboeva N.A., Muhiddinov Sh.M. Issues of creating modern urban ecosystems in Uzbekistan. Kazan Federal University Naberezhnye Chelny Institute International Scientific Conference "Quality of life of the population of industrial territories in the strategy "Society 5.0": collection of conference materials (Naberezhnye Chelny, June 2, 2022). – Kazan: ISBN 978-5-00130-622-1 (vol. 2) ISBN 978-5-00130-620-7 Kazan University Publishing House, 2022;2(167):135-138.
11. Babushkin L.N., Kogai N.A. The state of the question: on the physical and geographical zoning of Central Asia and Uzbekistan. //Scientific papers, issue 231. Tashkent, 1964; pp. 65-78.

12. Balashova E.N. et al. Climatic descriptions of the Republic of Central Asia. //Hydrometeorological data. Moscow, 1969; C. 3-149.
13. Genusov A.Z. et al. Soil and climatic zoning of Central Asia. Vol. 1965; pp. 75-117.
14. Kobilov E.E., Isakov A.M., Ibragimov Sh.Kh. The effectiveness of ozone therapy in purulent endobronchitis caused by foreign bodies in children. //Materials of the third Russian Forum "Surgery 2001" Achievements of modern surgery Moscow 2001; pp.366-367.
15. Kobilov E.E., Shamsiev A.M., Mukhammadieva L.A., Isakov A.M., Turaev Yu.A. The effect of low-intensity laser radiation on the course of purulent endobronchitis in an experiment. //Journal of Surgery of Uzbekistan 2001;2(4):71-73.
16. E. E. Kobilov, Kh. F. Batirov, E. M. Ozdamirova. Urban Ecosystems of Uzbekistan and Ways of Their Ecologization. BIO Web of Conferences 63, 03002 (2023) ASE-2023 <https://doi.org/10.1051/bioconf/20236303002>
17. E. E. Kobilov, Kh. F. Batirov, S. A. Aslakhonova. Food Supply as the Main Factor of People's Quality of Life. SHS Web of Conferences 172, 02007 (2023) SHCMS 2023. <https://doi.org/10.1051/shsconf/202317202007>
18. Uralov Shukhrat, E.E.Kobilov, H.F.Batirov, M.K.Tukhtaev, V.B. Agzamov. Clinical and anamnestic characteristics of children with chronic gastroduodenal pathology. BIO Web of Conferences Volume 76 (2023) I International Conference "Biotechnologies in the Context of Human Development" (BCHD - 2023). Osh, Kyrgyzstan, Grozny, Russia, July 21, 2023 BIO Web of Conferences 76, 01014 (2023) <https://doi.org/10.1051/bioconf/20237601014> <https://www.bio-conferences.org/articles/bioconf/abs/2023/21/contents/contents.html>
19. Alberto Pietro Damiano Baltrocchi, Lucrezia Maggi, Bruno Dal Lago, Vincenzo Torretta, Márta Szabó, Muhtor Nasirov, Ergash Kabilov, Elena Cristina Rada. Mechanisms of Diffusion of Radon in Buildings and Mitigation Techniques. Sustainability journal, Sustainability 2024;16:324. <https://doi.org/10.3390/su16010324> <https://www.mdpi.com/journal/sustainability>.
20. M.G. Nosirov, E. Kobilov. Wastewater treatment in touristic facilities of the Samarkand region of Uzbekistan. //C5RW74 International Conference on Circularity, Sustainability and Resilience in Water; Wastewater and Sludge Management 11-13 february 2024 Varese, Italya.

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