



## "Epidemiological and Microbiological Detections and Drug-Resistant Strains of Primary Pulmonary Tuberculosis"

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**Abstract:** According to a World Health Organization report, tuberculosis (tuberculosis) is the most deadly disease on the planet. It is noted that global efforts have saved 54 million people from dying from tuberculosis since 2000, but 1.6 million people died from it in 2017 alone.

**Keywords:** Koch bacillus, primary tuberculosis, infection, tuberculosis, morbidity, chronic.

Currently, tuberculosis is one of the most urgent health problems in many countries of the world (Rieder N.L., Cretin J., 1995; Vernon A., Khan A., 2002).

Many researchers point out that the risk of infection is high for those who have close relatives or contacts with tuberculosis patients, especially children and adolescents (Ovsyankina E.S., Zakhovaeva E.Kh., 2001). Indicators of secondary morbidity in tuberculosis foci are ten times higher than the general incidence rate of the population (Feshchenko Yu.I., 2002; Aksyutina L.P., 2003; Levashev Yu.N., 2003).

In connection with the epidemiological situation that has arisen in the new socio-economic conditions, the problem of evaluating the quality and effectiveness of the anti-epidemic and preventive measures against tuberculosis, and their impact on the level of tuberculosis is considered urgent. (author Pasechnik, Oksana Aleksandrovna)

In our opinion, the use of the quality of life indicator can be a promising direction in terms of finding indicators that will allow us to predict changes in the epidemiological situation in the near future. Currently, the study of the quality of life is a reliable way to assess the general well-being of not only individuals, but also groups of people - people of different ages, professions and other categories, and society as a whole. , 224, 269, 317.. At the same time, the study of the quality of life provides an opportunity to obtain such health characteristics that cannot be determined by any other method.

The high information content of the QOL indicator is related to the multi-component nature of its constituent criteria. Thus, according to the WHO, the following indicators determining the quality of human life are defined: - physical (strength, energy, fatigue, pain, discomfort, sleep, rest); - psychological (positive emotions, thinking, learning, memorization, concentration, self-esteem, appearance, negative experiences); - level of independence (daily activities, indicators, dependence on drugs and treatment); - social life (personal relationships, social value of the subject, sexual activity); - environment (welfare, safety, life, safety, availability and quality of medical and social care, availability of information, opportunities for training and professional development, free time, ecology (pollutants, noise, population, climate, etc.); - spirituality (din, There are many studies in the scientific literature devoted to the analysis of the quality of life of patients diagnosed with

tuberculosis, but attempts to use this indicator to assess the socially determined factors of the development of tuberculosis and to predict the epidemiological situation have not yet been made.

According to the literature, among the contingent with a high risk of developing tuberculosis, its detection occurs 6-8 times more often than in the general population. The first risk group includes epidemiological factors that are in close contact with patients with tuberculosis. The second risk group includes people with chronic somatic diseases, alcohol abusers, people working in hazardous production conditions - these are called biomedical risk factors.

The third group includes persons with social risk factors: alcoholism, drug addiction, being in places of deprivation of liberty, unemployment. Persons working in the service sector are defined as a special risk group. The inclusion of the contingent employed in the service sector in the risk group is not related to the presence of biomedical, social and epidemiological factors, but is related to the presence of a large circle of contacts and the need for timely diagnosis to prevent the spread of tuberculosis. spread of infection among healthy people.

In addition, the system of active detection of tuberculosis requires medical personnel to maintain systematic reports and accounting documents, to analyze and present data to higher authorities for further development of organizational and methodological measures (feedback principle) .

### **The level of study of the problem.**

The clinic of tuberculosis, including pulmonary tuberculosis, and the effectiveness of its treatment are mainly determined by the presence of multimorbidity, which aggravates the specific process and complicates its treatment. The frequency of multimorbidity in patients with pulmonary tuberculosis ranges from 80% to 100%. The effects of chronic viral and alcoholic hepatitis, peptic ulcer disease, diabetes mellitus, as well as adverse reactions during chemotherapy have been fully studied in the course of tuberculosis (Aminev H.K. et al., 2017;

Muazzamov B.R. (2009) established that the epidemiological indicators of tuberculosis in Bukhara region depend on the climate-geographic characteristics of the region. It has been proven that more adverse conditions affecting the epidemiological indicators of tuberculosis occur in arid regions.

**The purpose of the study.** "Clinical, epidemiological and microbiological aspects of drug resistance detection of primary pulmonary tuberculosis".

### **Research tasks:**

1. Conducting a comparative epidemiological analysis and evaluating the medical and social aspects of the population infected with drug-resistant primary pulmonary tuberculosis by age, gender, and place of residence (in the case of Bukhara region)
2. Carrying out short-term and long-term forecasting by conducting a comparative analysis of the transmission routes of the population infected with drug-resistant primary pulmonary tuberculosis
3. To study and evaluate the effectiveness of treatment results by analyzing the results of treatment of the population with drug-resistant primary pulmonary tuberculosis
4. Taking into account the epidemiological characteristics of pulmonary tuberculosis infection, development of ways to optimize primary and secondary prevention of patients with pulmonary tuberculosis.

**Research object and subject:** Statistical indicators of pulmonary tuberculosis incidence in Bukhara region during 2012-2022 and data of epidemiological survey of patients with pulmonary tuberculosis.

### **Research methods.**

The following methods are used in research:

- microbiological methods (identification of microorganisms; determination of sensitivity of microorganisms to antibiotics);

- statistical methods (using "Excel" computer programs for medical-biological research).

### Scientific novelty of the work.

To develop proposals for improving the system of epidemiological control of pulmonary tuberculosis in Bukhara region and to give concrete recommendations for the prevention of this infection.

### References

1. World Health Organization. Global Tuberculosis Report 2018. Geneva; 2018.
2. Cudahy PGT, Andrews JR, Bilinski A, Dowdy DW, Mathema B, Menzies NA, et al. Spatially targeted screening to reduce tuberculosis transmission in high-incidence settings. *The Lancet Infectious Diseases*. 2019; 19(3):e89–e95. Doi: 10.1016/S1473-3099(18)30443-2.
3. Raffalli J, Sepkowitz KA, Armstrong D. Community-based outbreaks of tuberculosis. *Archives of Internal Medicine*. 1996;156(10):1053–1060. doi:10.1001/archinte.156.10.1053.
4. Classen CN, Warren R, Richardson M, Hauman JH, Gie RP, Ellis JH, et al. Impact of social interactions in the community on the transmission of tuberculosis in a high incidence area. *Thorax*. 1999; 54(2):136–40.
5. Yates TA, Khan PY, Knight GM, Taylor JG, McHugh TD, Lipman M, et al. The transmission of *Mycobacterium tuberculosis* in high burden settings. *The Lancet Infectious Diseases*. 2016; 16(2):227–38. Doi: 10.1016/S1473-3099(15)00499-5.
6. Shaweno D, Karmakar M, Alene KA, Ragonnet R, Clements AC, Trauer JM, et al. Methods used in the spatial analysis of tuberculosis epidemiology: A systematic review. *BMC Medicine*. 2018;16(1):1–18. doi:10.1186/s12916-018-1178-4.
7. Prussing C, Castillo-Salgado C, Baruch N, Cronin WA. Geo-epidemiologic and molecular characterization to identify social, cultural, and economic factors where targeted tuberculosis control activities can reduce incidence in Maryland, 2004-2010. *Public Health Reports*. 2013;128 Suppl(6 suppl3):104–14. doi:10.1177/00333549131286S314.
8. Zelner JL, Murray MB, Becerra MC, Galea J, Lecca L, Calderon R, et al. Identifying hotspots of multidrug-resistant tuberculosis transmission using spatial 103 and molecular genetic data. *Journal of Infectious Diseases*. 2016; 213(2):287–294. doi:10.1093/infdis/jiv387.
9. Ribeiro FKC, Pan W, Bertolde A, Vinhas SA, Peres RL, Riley L, et al. Genotypic and Spatial Analysis of *Mycobacterium tuberculosis* Transmission in a High-Incidence Urban Setting. *Clinical Infectious Diseases*. 2015; 61(5):758–766. doi:10.1093/cid/civ365.
10. Stucki D, Ballif M, Egger M, Furrer H, Altpeter E, Battegay M, et al. Standard genotyping overestimates transmission of *Mycobacterium tuberculosis* among immigrants in a low-incidence country. *Journal of clinical microbiology*. 2016; 54(7):1862–1870. doi:10.1128/JCM.00126-16.
11. Nelson KN, Shah NS, Mathema B, Ismail N, Brust JCM, Brown TS, et al. Spatial patterns of extensively drug-resistant tuberculosis transmission in KwaZuluNatal, South Africa. *The Journal of infectious diseases*. 2018;218(12):1964–1973. doi:10.1093/infdis/jiy394.
12. World Health Organization. *Global tuberculosis report*. WHO/Tb; 2021. [Google Scholar.
13. SINAN. *Homepage on the internet*. Brasília: Sistema de Informação de Agravos de Notificação; 2021. [2021 Dec 15.. Available from: <http://tabnet.datasus.gov.br/cgi/tabcgi.exe?sinannet/cnv/tuberabr.def> . [Google Scholar.
14. World Health Organization. *The end TB strategy*. WHO/Tb; 2015. [Google Scholar.
15. United Nations. *Sustainable Development Goals: United Nations department of global communications may 2020 guidelines for the use of the SDG logo including the colour wheel, and 17 icons*. United Nations; 2020. [Google Scholar.
16. Barreira D. *Epidemiol Serv Saúde*. 1. Vol. 27. Brasília: 2018. Os desafios para a eliminação da tuberculose no Brasil; e00100009. [PubMed. [Google Scholar.

17. BRASIL. *Boletim epidemiológico tuberculose 2021*. special number Secretaria de Vigilância em Saúde, Ministério da Saúde, Brasil; 2021. [Google Scholar.
18. Ashurov Otabek Shavkatovich // Epidemiological Aspects of Corona Virus Infection and Scientific Recommendations for the Treatment of Corona Virus Infection. // *RESEARCH JOURNAL OF TRAUMA AND DISABILITY STUDIES*.- No. 1(5). – P. 37–43.
19. Ashurov Otabek Shavkatovich, // Characteristics of the Coronavirus Disease and Its Epidemiological Features // - 1 No. 6. - SYNERGY: JOURNAL OF ETHICS AND GOVERNANCE
20. Mansurova M.Kh. and others // Features of the course of disease in reacting positively to brucellosis // *Doctor's herald*. – Samarkand, 2015. - № 2. – P. 8-11.