MedCrave
Step into the World of Research
Hospice & Palliative Medicine International Journal

Mini Review
Open Access
CrossMark

Pattern of situation of tuberculosis in the Islamic republic of Afghanistan

Abstract

Purpose of the study: to study the incidence of tuberculosis depending on gender, age and regional characteristics over the past 6 years (2017-2022) in the Islamic Republic of Afghanistan.

Material and methods: Data from the official statistics of the National Tuberculosis Program of Afghanistan, as well as the WHO assessment of the incidence of tuberculosis in the Islamic Republic of Afghanistan over the past 6 years (2017-2022) were analyzed.

Results: In the Islamic Republic of Afghanistan, the situation with tuberculosis remains a cause for concern. Over the past 6 years, the difference in the frequency of detection of new cases of tuberculosis between the WHO estimate and official statistics ranges from 26.7% to 36.9%. It should be noted that in 2017-2019, the detection of tuberculosis improved slightly; in 2019-2020, when the COVID-19 pandemic occurred, the detection of new cases of tuberculosis decreased, and in 2020-2022 it increased again.. Over the past 6 years More women than men suffer from tuberculosis. The difference in incidence is 4490 cases in 2017, 7936 in 2018, 10990 in 2019, 4230 in 2020, 12453 in 2021 and 5690 cases in 2022 and is significant. In 2022, as in other years, more (40%) were diagnosed with tuberculosis in young people aged 15-34 years. Moreover, about 11% of new cases (5562 out of 51654 cases) were registered in the age group 0-4 years, which should be paid special attention to. The most serious situation regarding the incidence of tuberculosis is in the Khost, Nangarhar and Nimroz regions, which are 350, 324 and 315 per 100 thousand population, respectively. The best situation for tuberculosis incidence is in the Panjshir, Maidan-Wardak and Bamiyan regions, which are 47, 72 and 83 per 100,000 population, respectively.

Conclusions: The difference in the incidence of new cases of tuberculosis between the WHO estimate and official statistics ranges from 26.7% to 36.9%. In 2019-2020, when the COVID-19 pandemic occurred, the number of new cases of tuberculosis decreased, and in 2020-2022 it increased again. Women are more prone to tuberculosis than men. 40% of new cases of tuberculosis are registered among young people aged 15-34 years, about 11% of new cases are registered in the age group 0-4 years. Among the 34 provinces of Afghanistan, the worst situation is in the provinces of Khost, Nangarhar and Nimroz, and the best situation for tuberculosis is in the provinces of Panjshir, Maidan Wardak and Bamiyan.

Keywords: tuberculosis, official statistics rates, WHO estimate rates, age, gender, regions

Volume 7 Issue 4 - 2024

Bobokhojaev OI, Muhammadyusufi Y
Department of Phthisiopulmonology of the State Education Institution ATSMU, Tajikistan

Correspondence: Bobokhojaev OI, Department of Phthisiopulmonology, State Educational Institution, Avicenna Tajik State Medical University, 734025, Dushanbe, Tajikistan, Tel +992 985868080, Email bobokhojaev@mail.ru

Received: October 01, 2024 | **Published:** October 11, 2024

Introduction

The importance of the issue: The problem of tuberculosis remains important for the international community, especially for low-income countries, where the prevalence and damage from this disease are greater. Worldwide, 10.0 million (9.0–11.1) people become ill each year, and the average number of deaths from TB is 1.2 million (1.1–1.3). According to WHO experts, out of 1 million children diagnosed with tuberculosis in the world, about a quarter of them will die in 2021.[1] In Afghanistan, tuberculosis remains a socio-economic problem. Along with the spread of tuberculosis among the population, military conflicts occurred in the country, and the social and economic infrastructure, including the system of providing anti-tuberculosis assistance to the population, was destroyed.[2] The history of the fight against tuberculosis in Afghanistan begins in 1954, when the National Program for the fight against tuberculosis was established by the Ministry of Public Health with the help of WHO. In 1997, the Ministry of Public Health introduced the Directly Observed Tuberculosis Treatment Strategy (DOTS) in Afghanistan with domestic and foreign partners. The DOTS program has been implemented nationwide since 2002. The access of the country's residents to the treatment facilities of DOTS services increased from 14% in 2001 to 97% in 2014.[3]

The total number of health centers implementing DOTS increased from 10 in 2001 to 1,306 in 2014, but Afghanistan remains the second-highest TB rate among countries in the Eastern Mediterranean (according to the WHO classification) and among countries with the highest incidence of tuberculosis is on the 22nd place in the world.[4] Anti-tuberculosis program by the Ministry of Public Health in cooperation with organizations of donor countries - Japan International Cooperation Agency (JICA), Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), the project of the US Agency for International Development (USAID) to fight against TB CTA / TB CARE-I and WHO and Afghanistan Anti-Tuberculosis and Lung Disease Association (ATLDS), private sector and Urban DOTS program and TB Patient Association are implemented.[5]

Among the neighboring countries of Tajikistan, Afghanistan has a common border of more than 1300 kilometers with us. In this country, which has been at war for many years, in 2022, according to the WHO, the incidence of tuberculosis will be 185 per 100,000 people, and the total incidence of tuberculosis will be about 76,000 people (with population of 40 million). Moreover, if the burden of drug-resistant types of tuberculosis among new patients in 2022 was low and amounted to only 4.2%, among re-treated patients this indicator is higher than in Tajikistan and is 38% (in Tajikistan in 2022 among new cases 28% and among re-treated cases 33%).[6] After the collapse and the declaration of the Islamic Emirate of Afghanistan, the system of anti-tuberculosis assistance to the population changed completely. Thus, this scientific research is of considerable importance, taking into account the emerging political changes and the emergence of many restrictions for conducting scientific research. The purpose of the study: to study the incidence of tuberculosis depending on gender, age and regional characteristics during the last 6 years (2017-2022) in the Islamic Republic of Afghanistan.

Material and methods

Data from the official statistics of Afghanistan's National Tuberculosis Control Program (NTP), as well as WHO's assessment of the incidence of tuberculosis in the Islamic Republic of Afghanistan in the last 6 years (2017-2022), were analyzed. The study design included a mixed-method study, including a qualitative study (implementation study) and a quantitative study (cohort method) among patients registered in the period 2017-2021. The source of data is the lists of tuberculosis patients of the State Institution Republican TB Center, the registration logs of TB patients (TB03) and TB with DR (TB03u) of health centers, the results of laboratory tests for drug susceptibility of the National Reference Laboratory (NRL), data from OPEN-MRS - the national electronic register of TB patients, notification of a TB patient, and TB patient cards.

Laboratory diagnostics of TB was performed in accordance with the algorithm for TB diagnostics. Age groups were divided by gender into: children, including patients under 18 years of age; young age: 18-44 years; middle age: in this study 45-64 years; elderly age: 65 and older. Statistical processing of the material was performed using Microsoft Excel 2010 and Statistica 10.0 (StatSoft, USA). Quantitative indicators were described as mean and standard error. Qualitative indicators are presented as absolute values and shares (%). For pairwise comparison of qualitative indicators, $\chi 2$ test including Yates correction and Fisher's exact test were used. Differences were considered statistically significant when "p" was less than 0.05.

Results and discussion

In the Islamic Republic of Afghanistan, the situation of the population with tuberculosis remains a matter of concern. The difference in the rate of finding new cases of tuberculosis between official statistics and the rate of assessment by the World Health Organization (WHO) is shown in Figure 1.

It can be seen from this picture that in the last 6 years, the difference in the detection of new cases of tuberculosis between the WHO assessment and official statistics is from 26.7% to 36.9% ($p<0.001$). That is, about a third of possible new cases of tuberculosis are not detected. At the same time, it should be noted that in 2017-2019, the detection of tuberculosis slightly improved ($p>0.05$), in 2019-2020, when the COVID-19 pandemic occurred, the detection of new cases of tuberculosis decreased ($p <0.001$), increased even more in 2020-2022 ($p<0.001$). These conclusions are similar to the process of tuberculosis in the period of COVID-19 in other countries, including Tajikistan.[7]

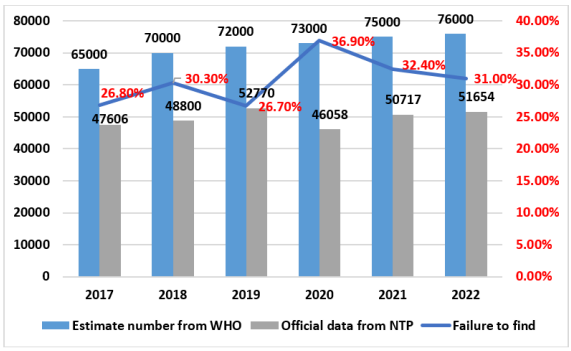

Figure 1 The difference in the rate of finding new cases of tuberculosis between official statistics and the rate of assessment by the World Health Organization.

Figure 2 shows the difference in the incidence of tuberculosis between men and women. From this picture, it can be seen that in the last 6 years, women are more prone to tuberculosis than men. The difference in morbidity is equal to 4490 cases in 2017, 7936 - in 2018, 10990 - in 2019, 4230 - in 2020, 12453 - in 2021 and 5690 cases in 2022 and is significant ($p<0.001$).

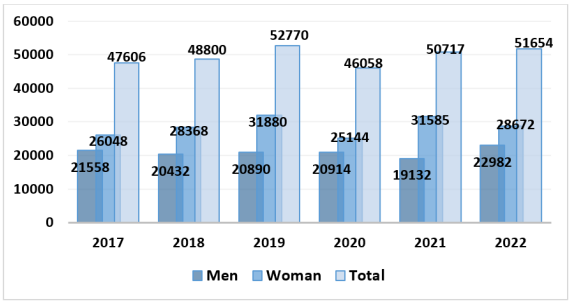

Figure 2 The difference in the incidence of tuberculosis between men and women.

Figure 3 shows the difference in TB incidence between different age groups in 2022. This figure shows that in 2022, as in other years, more (40%) young people aged 15-34 were diagnosed with tuberculosis. This conclusion is similar to the process of tuberculosis in Tajikistan.[8] At the same time, about 11% of new cases (5562 out of 51654 cases) were registered at the age of 0-4 years, which should be given special attention. Table 1 shows the incidence of tuberculosis (per 100,000 population) in all 34 provinces of Afghanistan in 2022 (Table 1).

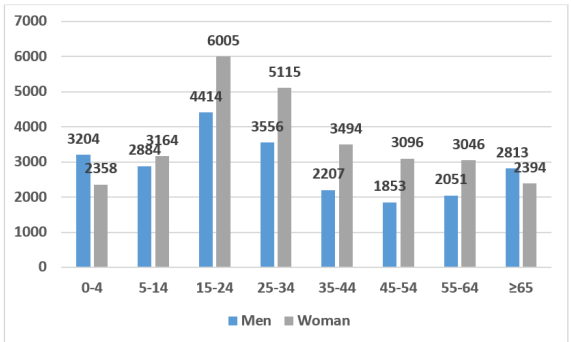

Figure 3 Differences in the incidence of tuberculosis between different age groups.

Citation: Bobokhojaev OI, Muhammadyusufi Y. Pattern of situation of tuberculosis in the Islamic republic of Afghanistan. *Hos Pal Med Int Jnl.* 2024;7(4):118–121. DOI: 10.15406/hpmij.2024.07.00254

Table 1 Tuberculosis incidence rate (per 100,000 population) in 34 provinces of Afghanistan.

S.No	Name of the region	Number of population	Center of the region	Tuberculosis rate per 100,000 population
1	Baghlan	1 014 634	Puli-Humri	191
2	Badakhshan	1 054 087	Faizabad	87
3	Badgis	549 583	Castle-Nau	271
4	Balkh	1 509 183	Mazar-Sharif	172
5	Bamiyan	495 557	Bamiyan	83
6	Maidan Wardak	660 258	Maidanshahr	72
7	Ghazni	1 352 504	Ghazni	111
8	Herot	2 140 662	Herot	132
9	Helmand	1 446 230	Lashkargah	276
10	Gore	764 472	Chacharan	271
11	Daikundi	516 504	Neely	130
12	Jauzjan	602 082	Shibargan	193
13	Zebul	384 349	Kalat	278
14	Kabul	5 204 667	Kabul	111
15	Kandahar	1 399 594	Kandahar	175
16	Kapisa	488 298	Mahmudraki	87
17	Kunar	499 393	Asadabad	171
18	Kunduz	1 136 667	Kunduz	132
19	Laghman	493 488	Mekhtarlam	131
20	Loghar	434 374	Pulialam	131
21	Nangarhar	1 701 698	Jalalabad	324
22	Nimroz	183 554	Orange	315
23	Nuristan	163 814	Parun	132
24	Pactika	775 498	Sharana	132
25	Paktia	611 952	Gardez	175
26	Panjsher	169 926	Bazarak	47
27	Parvan	737 700	Charikar	87
28	Samangan	430 489	Aybak	151
29	Sari-Pul	621 002	Sari – Pul	132
30	Tahar	1 093 092	Taluqan	111
31	Uruzgan	436 079	Tarinkot	131
32	Farah	563 026	Farakh	272
33	Faryab	1 109 223	Maymene	154
34	Host	636 522	Khost	350

As can be seen from this table, the most serious situation regarding the incidence of tuberculosis is in Khost, Nangarhar and Nimroz regions, which are equal to 350, 324 and 315 per 100 thousand population, respectively. The best situation regarding the incidence of tuberculosis is in Panjsher, Maidan Wardak and Bamian provinces, which are 47, 72 and 83 per 100 thousand population, respectively. The difference in the detection of new cases of tuberculosis between the WHO assessment and official statistics in recent years indicates that about a third of potential new cases of tuberculosis are not detected. Although the National Tuberculosis Guidelines recommend the use of GeneXpert as an initial test for the diagnosis of pulmonary tuberculosis, it is not widely used nationwide due to several practical problems. Many doctors still rely on the results of sputum microscopy along with clinical signs and radiographic evidence to diagnose tuberculosis.

The anti-tuberculosis program involves the involvement of specialists from private institutions as part of anti-tuberculosis activities and the expansion of the Public-Private-Partnership approach in promoting the perspective of DOTS (Directly Observed Treatment, Short Course), which means short-term supervised treatment, by organizing measures Prioritizes partnerships between public and private healthcare institutions. To improve TB suspect detection and diagnosis, a sputum sample delivery system and patient referral system should be established. The tuberculosis control program supports the implementation of the FAST (Find cases Actively, Separate safely, and Treat effectively) perspective, which focuses on active detection, control of the spread of infection, and effective treatment of patients. Also, the best practices of health facilities and reporting systems for active TB screening among adults and children in urban and rural areas should be disseminated.

The activities of the anti-tuberculosis program in Afghanistan are mainly based on community involvement. The strategy of CHWs (Community health workers), which means the establishment of Community Health Workers (CHW), implements many field activities, such as active referrals for finding suspected persons, contact tracing and treatment control. Also, the mechanism of active detection of persons suspected of tuberculosis through the examination of contacts, which will ensure contact tracing of tuberculosis patients through bacteriological and clinical methods according to national guidelines. Through the activities of Targeted Support Teams (TST

Citation: Bobokhojaev OI, Muhammadyusufi Y. Pattern of situation of tuberculosis in the Islamic republic of Afghanistan. *Hos Pal Med Int Jnl.* 2024;7(4):118–121. DOI: 10.15406/hpmij.2024.07.00254

- Targeted Support Teams) in the provinces, relevant persons should be examined, refer potentially sick persons for further examination, and provide assistance to children under five years of age and close relatives who have no one to undergo examination.

After the collapse and the declaration of the Islamic Emirate of Afghanistan, the system of anti-tuberculosis assistance to the population changed completely. Along with the spread of tuberculosis among the population, military conflicts occurred in the country, and the social and economic infrastructure, including the system of providing anti-tuberculosis assistance to the population, was destroyed.

Conclusion

In recent years, about one-third of new cases of tuberculosis are not detected. In 2019-2020, when the COVID-19 pandemic occurred, the number of new cases of tuberculosis decreased, and in 2020-2022, it increased slightly. Women are more prone to tuberculosis than men. 40% of new cases of tuberculosis are registered among young people aged 15-34, and about 11% of new cases are registered in the age group of 0-4 years. Among the 34 provinces of Afghanistan, the worst situation is in Khost, Nangarhar and Nimroz provinces, and the best situation in terms of tuberculosis is in Panjsher, Maidan Wardak and Bamian provinces.

Acknowledgments

None.

Conflicts of interest

The authors declared that there are no conflicts of interest.

References

1. Global tuberculosis report 2022. Geneva: WHO. 2022.
2. Qader GQ, Seddiq MK, Rashidi KM, et al. Prevalence of tuberculosis among mentally ill patients in conflict-stricken Afghanistan: a cross-sectional study. *Int J Infect Dis.* 2019;89:45–50.
3. Carthaigh N, Gryse B, Esmati AS, et al. Patients struggle to access effective health care due to ongoing violence, distance, costs and health service performance in Afghanistan. *Int Health.* 2015;7(3):169–175.
4. Aman AM, Iskakova FA, Eralieva LT. Assessment of the epidemiological situation of tuberculosis in Afghanistan. *Bulletin of Kaznmu*. 2022;2(61):1–14.
5. Rahimi BA, Rahimy N, Mukaka M, et al. Determinants of treatment failure among tuberculosis patients in Kandahar City, Afghanistan: A 5-year retrospective cohort study. *Int J Mycobacteriol*. 2019;8(4):359–365.
6. Muhammadyusufi YM, Bobokhojaev OI. Stages of formation and efficiency of functioning of anti-tuberculosis service in the Islamic Republic of Afghanistan. Proceedings of the republican scientific and practical conference of the State Educational Institution Kharkiv State Medical University (IV annual), dedicated to the 32nd anniversary of State Independence of the Republic of Tajikistan «*Modern Challenges and Strategy for the Development of Medical Science and Healthcare*». Dushanbe: 2023. pp 247–248.
7. Bobokhojaev OI, Rajabzoda SR, Pulatova SD. Lessons learned after the COVID-19 pandemic: experience of the anti-tuberculosis service. Mat. XI Annual scientific and practical conference of Moscow phthisiologists with international participation "Anti-tuberculosis dispensary - mission of the XXI century", Tuberculosis and socially significant diseases. Moscow: 2023. pp. 69–70.
8. Bobokhojaev OI. Experience in optimizing the accessibility of services for tuberculosis in the Republic of Tajikistan. *J Community Med Health Solut.* 2022;3:64–68.

Citation: Bobokhojaev OI, Muhammadyusufi Y. Pattern of situation of tuberculosis in the Islamic republic of Afghanistan. *Hos Pal Med Int Jnl.* 2024;7(4):118–121. DOI: 10.15406/hpmij.2024.07.00254