



FREQUENCY AND CLINICAL AND DEMOGRAPHIC FEATURES OF MDR-TUBERCULOSIS

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Resume

Tuberculosis remains the second most significant cause of infectious death after COVID-19. In 2022, 10.6 million cases and 1.3 million deaths were recorded. MDR-TB poses a serious threat due to the high incidence of resistant mycobacteria. The aim of this study was to investigate the incidence, demographic characteristics, and key clinical characteristics of patients with MDR-TB in the Bukhara and Navoi regions of the Republic of Uzbekistan.

Materials and methods

A total of 123 medical records of patients treated in hospitals between 2019 and 2023 were analyzed. The prospective group consisted of 31 patients (25.2%), and the retrospective group consisted of 92 patients (74.8%). Gender, age, presence of MBT, and characteristics of group distribution were determined. Descriptive statistics, the Mann–Whitney U test, and the χ^2 test were used.

Results

Table 1

Distribution of patients by gender depending on the study group

Group	Men (abs /%)	Women (abs /%)	Total
Main (n=31)	18 / 58.1%	13 / 41.9%	31
Control (n=92)	62/67.4%	30 / 32.6%	92
Total (n=123)	80/65%	43 / 35%	123

The data obtained show that men constitute the majority in both the study group (58.1%) and the control group (67.4%). Despite the numerical predominance of men, no statistically significant differences in gender were found between the groups (P=0.346), indicating comparability of the samples and the absence of a gender bias in the structure of the study population.

Table 2

Average age of patients by study groups

Group	M	m



Group	M	m
Main (n=31)	54.63	11.42
Control (n=92)	54.14	9.82
Total (n=123)	54.62	10.2
Mann–Whitney (U)	P = 0.449	

The mean age in the study (54.63±11.42 years) and control (54.14±9.82 years) groups was virtually identical. Statistical evaluation results (P=0.449) indicated no differences between the groups, indicating an even age distribution of patients.

Table 3

The frequency of verification of Mycobacterium tuberculosis

Indicator	ABS	M (%)
MBT detected	107	87%
MBT was not detected	16	13%
Total	123	100%

The presented data demonstrate a high laboratory confirmation rate of MBT in patients with suspected tuberculosis—87% of cases. The proportion of negative results was 13%, which can be explained by a low bacterial load, technical limitations of the diagnostic, or latent forms of the disease. The high percentage of positive results confirms the reliability of the diagnostic methods used (microscopy, PCR, culture) and also reflects the severity of the infectious process in the patients being monitored.

Table 4

Frequency of complications on admission

Type of complication	ABS	M (%)
Without complications	30	24.4%
With complications	93	75.6%
- Respiratory failure	78	83.9%
- Pulmonary heart failure	11	11.8%
- Hemoptysis + DN	3	3.2%
- Pleurocirrhosis + DN	1	1.1%



Most patients (75.6%) were admitted to the hospital in a state of decompensation, confirming their late presentation and progressive progression of tuberculosis. The most common complication was respiratory failure (83.9%), reflecting severe lung parenchymal involvement. Cardiac-pulmonary insufficiency was detected in 11.8% of patients and indicates severe hypoxia and pulmonary circulatory overload. Hemoptysis and pleurocirrhosis were significantly less common; however, their presence indicates destructive fibrotic changes and progression of fibrothorax .

Discussion

The data obtained confirm the high prevalence of severe forms of MDR-TB at presentation. The high detection rate of MBT emphasizes the importance of laboratory confirmation of the diagnosis. The high rate of complications demonstrates late presentation and the need for enhanced early screening and patient referral.

Conclusion

MDR-TB is characterized by a male predominance, middle- aged patients, a high frequency of laboratory-confirmed cases, and a significant number of complicated forms at admission. These data are important for planning preventive measures and early diagnosis of MDR-TB.

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