

Successful diagnosis of Latent Tuberculosis Infection (LTBI) and treatment with shorter regimens in Tajikistan



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Background

Tajikistan is among 30 high MDR/RR-TB burden countries. Estimated incidence rate of TB was 84 and MDR-TB was 20 per 100,000 population in 2019.

Diagnosis and treatment of Latent Tuberculosis Infection (LTBI) is a critical component to achieve EndTB targets, by preventing the development of active TB disease.

It was only 6 months isoniazid (6H) regimen for LTBI treatment initially, and WHO later recommended 3 months of once weekly Isoniazid/Rifapentine (3HP) or 3 months of daily Isoniazid/Rifampicin (3HR) for better tolerability and efficacy.

MSF collaborates with National Tuberculosis Program (NTP) of Tajikistan in intensified case finding, infection control, diagnosis and treatment of active TB among paediatric population, and psychosocial and nutritional supports.

A pilot implementation of LTBI diagnosis and treatment with shorter regimen was started in March 2020, therefore understanding the programmatic outcomes of LTBI diagnosis and treatment will benefit NTP.

Results

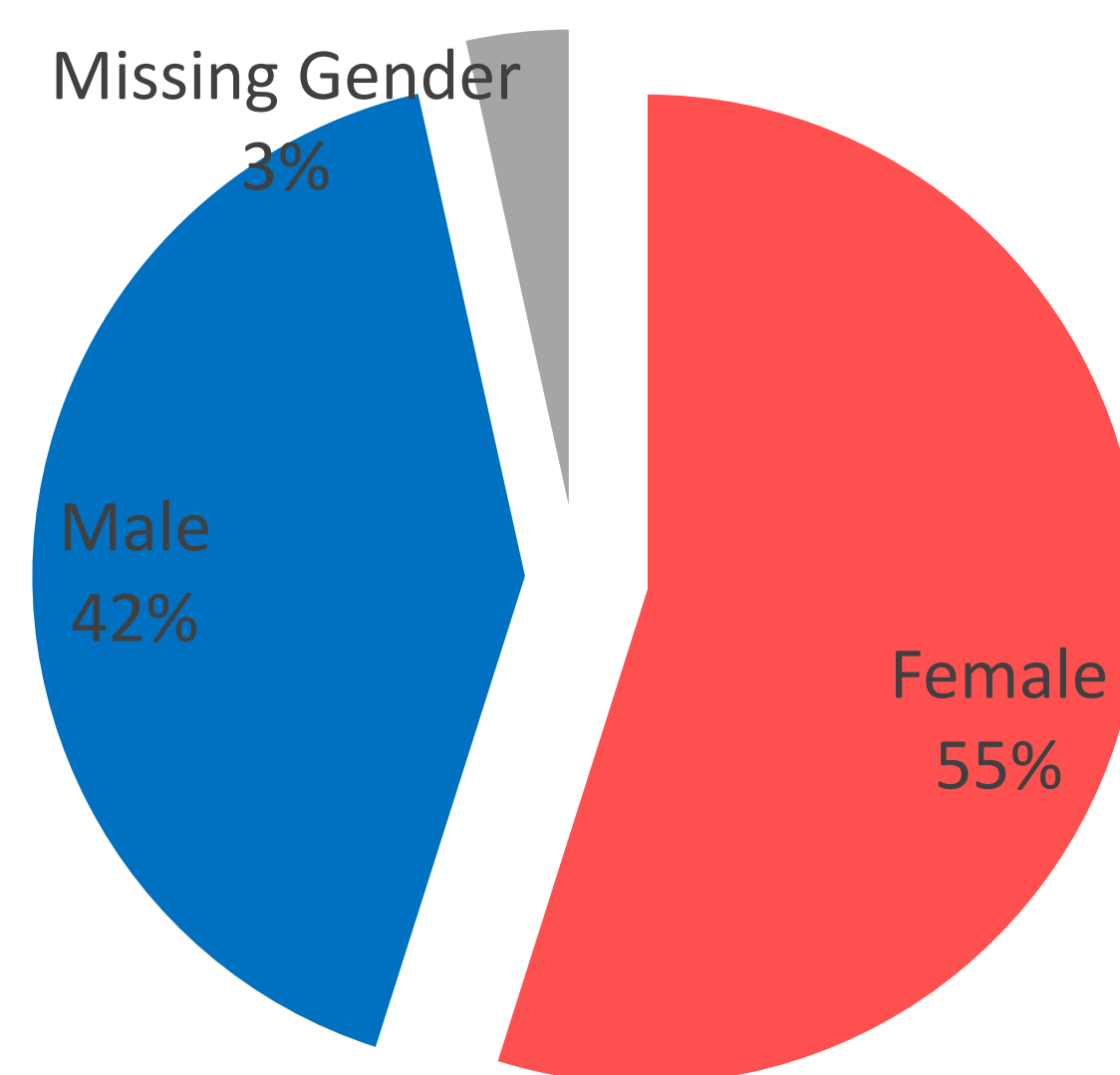
From March 2020 to December 2021, 317 household members (55% female, 42% male, 3% missing gender) were screened for LTBI. Their median age was 17.24 (IQR 7.71 – 34.69) years.

Among them, 45 (14%) tested with a positive IGRA test, 84 (26%) with a positive Mantoux test, and 39 (12%) were positive for both.

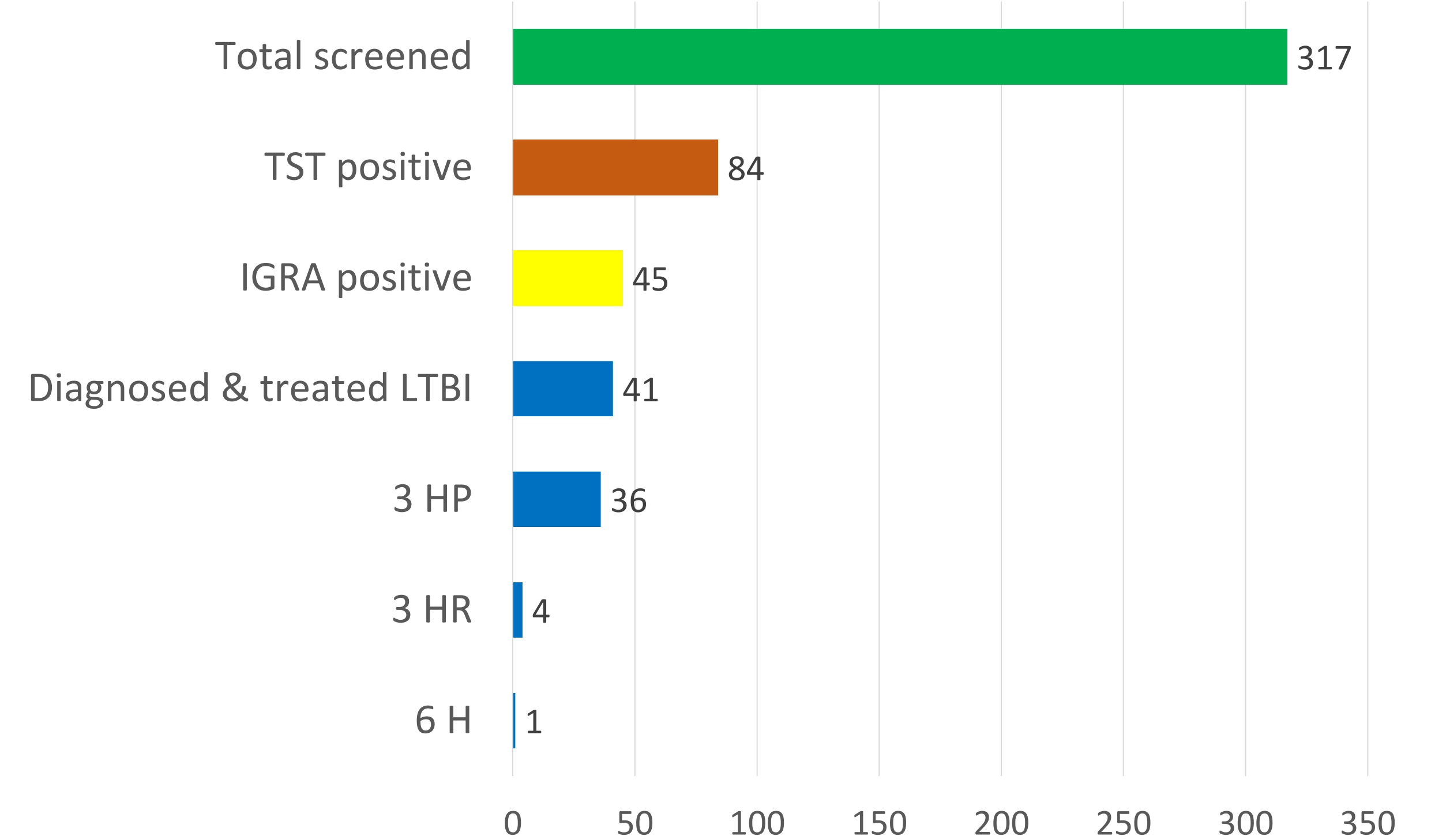
Clinical decision making was performed by a consilium of TB experts, and 41 patients were diagnosed with LTBI.

After informed consent, 36 were treated with 3HP, and four with 3HR, and one with 6H. Thirty-nine (39) successfully completed LTBI treatment without complications and 20 have been followed-up for 6 months with no development of TB.

Graph 1: Gender



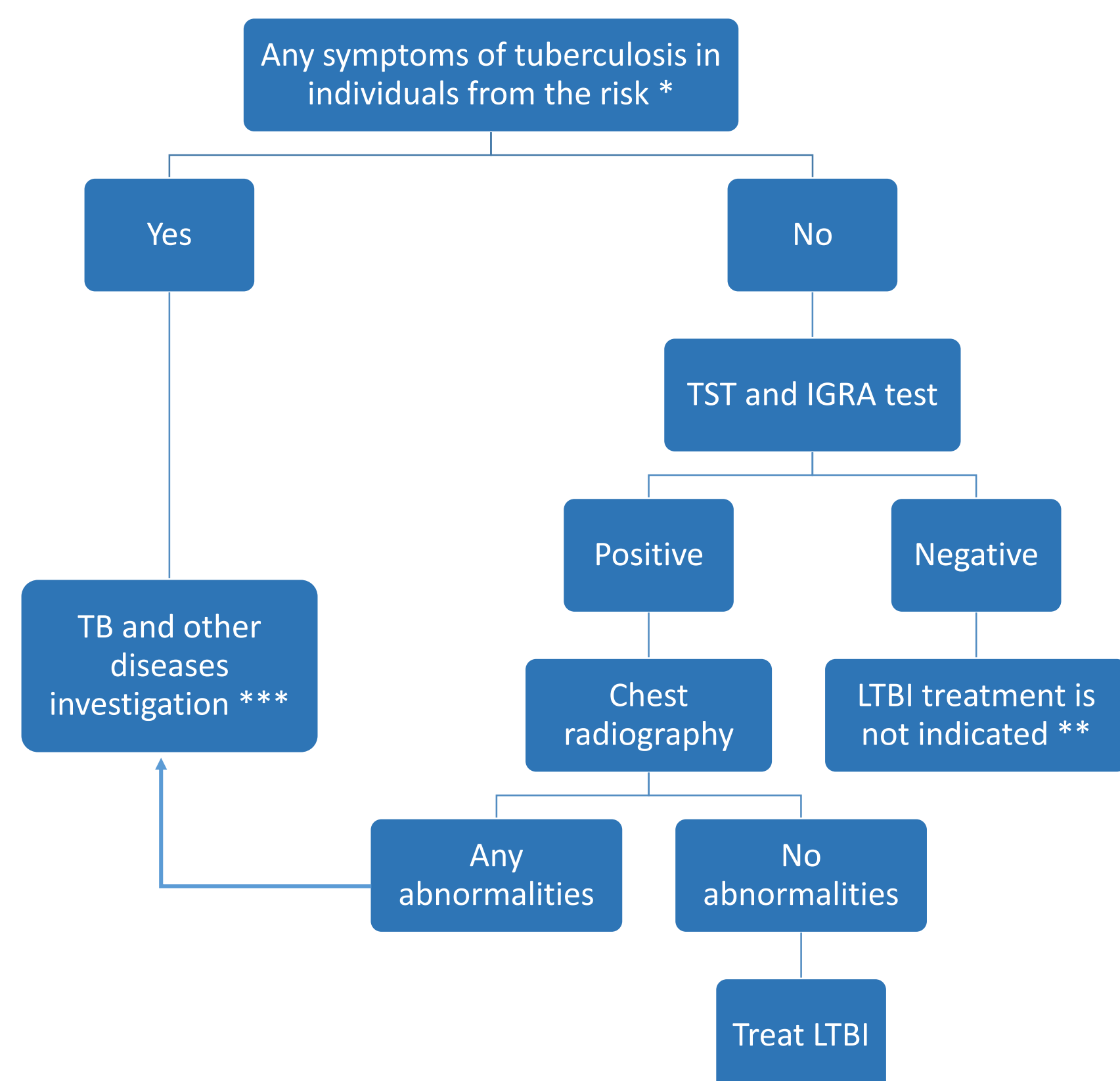
Graph 2: LTBI testing and treatment cascade



Methodology

Retrospective, observational cohort analysis was performed on routine programmatic data to understand the diagnosis of LTBI and its treatment outcomes with shorter regimens.

The target population for the pilot program were persons diagnosed with latent TB from known drug-sensitive TB household index cases who were identified through NTP treatment registers.



Flow chart for LTBI diagnosis and treatment

* Any symptoms of TB: cough, hemoptysis, fever, night sweats, weight loss, chest pain, shortness of breaths, fatigue.

** Clients for whom LTBI treatment is not indicated should be given information about TB, including of seeking care if symptoms of TB develop.

*** National TB guideline should be followed in investigating TB.



Supply chain sustainability for short shelf-life items like IGRA is key to smooth running of the program.

Conclusion

The implementation of LTBI treatment based on IGRA testing and using shorter treatment regimens such as 3HP and 3HR is feasible and successful in Dushanbe, Tajikistan.

Thirty-nine of 41 patients in our cohort successfully completed treatment without complications and no active TB was found in follow-up visits.

Sustaining the supply chain for short shelf-life items like IGRA is critical to keep the program running and proper treatment algorithms should be utilized.

Acknowledgements

Acknowledge to the participants of this analysis, national TB program, its officials, and MSF team members

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