

Hitting the bull's eye of ending tuberculosis goal: The challenge of addressing tuberculosis in human immunodeficiency virus positive population in India

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Abstract

Eradicating tuberculosis in human immunodeficiency virus is all the more important to realise India's ambitious goal of tuberculosis free India by 2025. Although, continuous efforts are being made to address tuberculosis in human immunodeficiency virus co-infection, it is imperative to closely monitor the implemented strategies, encourage and validate disease notification system in the country, and bring about societal change to view this disease as an ailment only and not as a stigma.

Key words: Tuberculosis in human immunodeficiency virus; Human immunodeficiency virus; Tuberculosis; Acquired immunodeficiency syndrome; Co-infection; Tuberculosis-free India; India tuberculosis challenge; Human immunodeficiency virus co-infections; Single window system

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Core tip: Addressing tuberculosis in human immunodeficiency virus (HIV-TB) is essential to achieve the goal of eradicating tuberculosis, as well as achieving the human immunodeficiency virus programme goal of zero mortality due to co-infection. Although, continuous efforts are being made to address HIV-TB co-infection, it is imperative to closely monitor the implemented strategies, encourage and validate disease notification, and document steps taken towards prevention and treatment under the HIV-TB umbrella in the country to realize its vision of sustainable health and eradicate it for good.

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INTRODUCTION

India announced its ambitious goal of eradicating tuberculosis (TB) by 2025, way before the global timeline of 2030. This vision articulates the gravity of the country's commitment towards sustainable health; addressing the challenge of managing TB among people living with human immunodeficiency virus (HIV) (PLHIV) is crucial to achieve this aim.

TB remains the most common opportunistic infections among PLHIV, with an estimated incidence of TB-HIV in India of 92000 in 2018^[1]. Alarmingly, India was among the 14 high burden countries worldwide for the period of 2016-2020, for all three types of TB incidences, *i.e.* TB, MDR-TB, and TB/HIV^[2]. It is a massive challenge to achieve TB eradication for the second most populous country in the word, with a projected TB burden of 2.7 million in the general population and more than 2.5 million PLHIV.

Globally, TB caused an estimated 251000 deaths among HIV-positive people in 2018, wherein this mortality rate in India was estimated to be 9700^[3]. Thus, addressing HIV-TB co-infection is vital to achieve the goal of ending TB in India and reducing morbidity and mortality among its PLHIV population.

Recognizing this challenge, in its National Health Policy 2015, the Government of India emphasized active TB case detection among PLHIV^[4]. Many such measures had been adopted since then. All PLHIV registered at antiretroviral therapy (ART) centres must be screened for active TB. Similarly, all notified TB cases must be counselled for HIV testing.

It is noteworthy that of the total TB cases notified in 2017, 36440 patients were known HIV-positive. However, with the strengthening HIV programme in India, 79% of these patients were receiving ART. With continuous efforts, the TB treatment success rate was also documented as 71%^[1] among HIV-positive TB cases registered in 2017.

Early TB screening efforts among HIV-positive patients have taken flight with the introduction of intensified case finding, and involves systematic screening for active TB among all registered HIV-positive patients at ART centres nationwide. It involves prompt TB screening in PLHIV using the 4-Symptom Complex where all attending HIV patients at ART centres are screened for four symptoms^[5]. The findings are well documented and reported at the central level for close monitoring purposes. In the past, TB investigation was dependent on culture testing leading to days of waiting for results, thus delaying the treatment of TB-positive cases. However currently, India has successfully implemented cartridge-based molecular testing for detecting TB among HIV-TB co-infected patients. This Genexpert Test or Cartridge Based Nucleic Acid Amplification Test aids TB diagnosis by detecting the presence of *Mycobacterium TB*, and also testing for rifampicin resistance in the shortest duration of 2 h.

Moreover, to avoid any gaps in TB treatment among PLHIV, the single window system was launched in India in 2016, where first-line TB treatment is provided at HIV treatment centres to co-infected PLHIV, avoiding the need for HIV patients to go separately to TB centres for collection of their TB drugs. Such integration of TB and HIV service delivery has led to an increase in ART uptake and timeliness of ART initiation, and reduced mortality from HIV-associated TB by up to 40%^[6].

A proactive approach has also been adopted with the implementation of isoniazid preventive therapy among all eligible HIV-positive registered patients. This was further combined with appropriate measures on Airborne Infection Control at various ART centres across the country^[3].

A remarkable step was also taken in 2018 towards utilizing technology in the HIV-TB arena to increase the capacity of ART centre staff. To this end, an e-learning initiative termed "National Initiative to Strengthen Collaboration between HIV-TB through e-Learning" was implemented to train physicians and the staff of HIV treatment centres on HIV-TB case management. Selected ART centres from North and South India discuss their queries on HIV-TB cases live with national experts. This platform provides them with a unique opportunity to interact face-to face with clinical subject experts and other healthcare fellows managing HIV-TB patients in different states, thereby providing a platform for sharing the HIV-TB management best practices.

CONCLUSION

Addressing HIV-TB is essential to eradicate TB as well and achieve the HIV programme goal of zero mortality due to co-infection. Although, continuous efforts are being made to address HIV-TB co-infection, it is imperative to closely monitor the implemented strategies, encourage and validate disease notification, and document steps taken towards prevention and treatment under the HIV-TB umbrella in the country to realise its vision of sustainable health.

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