

India's fight against tuberculosis: How can chest physicians help?

March 24th is World Tuberculosis (TB) Day, and the theme for 2017 is "Unite to End TB." In 2016, the World Health Organization (WHO) declared that the TB problem was worse than previously estimated, with a revised figure of 10.4 million new TB cases in 2015.^[1] This number was higher than the previous year, and the increase was primarily because of revised numbers from India. Indeed, India accounted for 27% of the 10.4 million new cases and 29% of the 1.8 million deaths during that year.^[1] TB is one of the top five causes of death among adults in India. India also has a high burden of multidrug-resistant TB (MDR-TB), with nearly 80,000 cases during 2015.^[1]

In February 2017, India's Finance Minister announced the government's goal to eliminate TB by 2025. While this goal is indeed aspirational, the more pressing question at present is as to how can all stakeholders in India come together to make a serious effort to control the TB menace? Among the key stakeholders, we believe chest physicians in India have a critical role to play. We offer five suggestions on how pulmonologists in the country can step up in the fight against TB.

First, since chest physicians, in both public and private sectors, treat a large number of TB patients, it is important that they make an effort to notify all TB cases to local health authorities (e.g., district or city TB officers). This will greatly help the Revised National TB Control Programme (RNTCP) in precisely estimating the TB case burden and for seeking appropriate funding budgets. RNTCP provides a range of services such as contact investigation, linkage to free TB drug programs, adherence and social support, and linkage to Programmatic Management of Drug-resistant TB services for patients with MDR-TB. Thus, notification is a critical first step in engaging and harnessing the RNTCP machinery to better serve TB patients.

Second, chest physicians can set an example to other doctors in how TB should be diagnosed. At the level of general practitioners (GPs), there is evidence that patients with classic TB symptoms rarely get investigated for TB.^[2-4] Instead, GPs give broad-spectrum antibiotics (e.g., fluoroquinolones) and nonspecific drugs such as cough syrups and steroids. Even when TB is considered likely, GPs tend to order tests such as complete blood count, erythrocyte sedimentation rate, Mantoux test, and chest X-rays. They rarely seek microbiological confirmation through sputum smear microscopy, culture, or polymerase chain reaction tests. All these result in

diagnostic delays, and patients often bounce from one doctor to another before TB is eventually picked up.^[5-7]

Since chest physicians are often seen after initial consultations with GPs, it is important that pulmonologists directly begin the diagnostic workup with the best WHO-endorsed TB tests that are available. These include Xpert MTB/RIF (GeneXpert), line probe assays for both first-line and second-line anti-TB drugs (e.g., Hain MTBDRplus and Hain MTBDRsl), as well as liquid cultures (e.g., MGIT).^[8] These tests are available through RNTCP, as well as in the private sector through the Initiative for Promoting Affordable and Quality TB Tests (IPAQT, www.ipaqt.org), which has made WHO-endorsed TB tests more affordable in India.^[9,10] Since patients are already likely to have been treated before seeking care from chest physicians, it is critical that all TB patients receive drug susceptibility testing (DST). This is especially true in MDR-TB hot spots such as Mumbai city, where DST is mandatory, given the high background prevalence of drug resistance.^[11-13]

Third, chest physicians can play a significant role in preventing the emergence of drug resistance by carefully selecting the best drug regimens, based on DST. There is evidence that when GPs initiate anti-TB treatment, they tend to use drug regimens that are not recommended by the WHO or the International Standards of TB Care.^[14,15] Furthermore, GPs often fail to ensure treatment completion and rarely provide sufficient adherence support to their patients. Hence, by the time chest physicians see such patients, they may already have drug resistance. Hence, pulmonologists must routinely order DST and offer DST-guided therapy, based on the resistance profile. Drug dosages should be based on body weight, and daily dosing is preferable.

Fourth, chest physicians are well placed to ensure that their patients adhere to the drug regimen and complete the full course of therapy. Adherence to the full course of anti-TB treatment (ATT) is critically important to ensure high cure rates and to prevent the emergence or worsening of drug resistance. However, GPs often struggle to ensure adherence. Most do not maintain any medical records, and this makes it very difficult to follow up patients. Patients often do not receive sufficient counseling about the importance of completing the full course of ATT. Drug-related side effects (if not adequately counseled on at the start of therapy) is another common reason for nonadherence and possible treatment default. Pulmonologists often spend more time with their patients and can provide more detailed counseling than GPs can. Further, chest physicians can handle drug toxicities

better than GPs can, and follow-up patients with smears and cultures.

Finally, chest physicians can be powerful advocates for TB patients. Due to their stature, they can increase political commitment to tackling TB, push the government to invest more resources for TB, and scale up new diagnostics and drugs. They can also conduct impactful clinical research that can help answer key questions in TB management and take on a bigger role in promoting national and international standards of TB care.

This World TB Day, we hope chest physicians, professional chest societies and associations as well as the policy planners in India will take up the cause and pursue the challenges of TB control more aggressively and pledge to the ultimate goal of a TB-free India.

Madhukar Pai, Parvaiz Koul¹

*McGill Global Health Programs, McGill International Tuberculosis Centre, McGill University, Montreal, Canada,
¹Department of Internal and Pulmonary Medicine, Sher-I-Kashmir Institute of Medical Sciences, Srinagar, Jammu and Kashmir, India
 E-mail: madhukar.pai@mcgill.ca*

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