

PARADIGM SHIFT FOR TB CONTROL

Relevant for: Developmental Issues | Topic: Health & Sanitation and related issues

[Tuberculosis \(TB\) remains the biggest killer disease in India](#), outnumbering all other infectious diseases put together — this despite our battle against it from 1962, when the National TB Programme (NTP) was launched. All hope was pinned on mass BCG vaccination to prevent TB. In 1978, the Expanded Programme on Immunisation (EPI) began, giving BCG to all babies soon after birth and achieving more than 90% coverage. Yet, when evaluated in 1990, the NTP and the EPI had not reduced India's TB burden.

In 1993, the Revised National TB Control Programme (RNTCP) was launched, offering free diagnosis and treatment for patients, rescuing them from otherwise sure death. However, treatment is not prevention. Prevention is essential for control.

Why did the NTP and the EPI fail? Visionary leaders had initiated a BCG vaccine clinical trial in 1964 in Chingelpet district, Tamil Nadu. Its final report (published in the *Indian Journal of Medical Research* in 1999) was: BCG did not protect against TB infection or adult pulmonary TB, the 'infectious' form. By then, the RNTCP was in expansion mode; experts hoped that curing pulmonary TB might control TB by preventing new infections. That assumption was without validation in high prevalence countries.

BCG immunisation does prevent severe multi-organ TB disease in young children, and must be continued but will not [control TB](#).

In countries with 5-10 cases in a lakh people annually, curing TB sustains the low disease burden. In India, with 200-300 cases in a lakh in a year, curing TB is essential to reduce mortality, but is not sufficient to prevent transmission. By 2014-15, the RNTCP was found to be very successful in reducing mortality, but failing to control TB. Why? From when a person becomes infectious to when he/she turns non-infectious by treatment, there is a gap of several weeks during which the infection saturates contacts in the vicinity. Delays in care seeking and diagnosis are the result of lack of universal primary health care.

The way forward to control TB and to monitor its trajectory was proposed in 2009, in an editorial in *Tropical Medicine & International Health* titled "Paradigm shift for tuberculosis control in high prevalence countries". According to the editorial, an innovative strategy was necessary.

True to its reputation as being one of the most progressive in health management, Tamil Nadu is planning to implement this new strategy in one revenue district, Tiruvannamalai. If successful, it will be replicated in all other districts. To ensure public participation — a missing element in the RNTCP — the new model will be in public-private participation mode. The Rotary movement, having demonstrated its social mobilisation strengths in polio eradication, will partner with the State government in the TB control demonstration project.

What is India's plan to eliminate TB?

Tiruvannamalai, a pioneer district in health management, was the first in India (1988-90) to eliminate polio using the inactivated polio vaccine (IPV), under a Health Ministry-Indian Council of Medical Research-Christian Medical College project.

The Directorate of Public Health and Preventive Medicine and the National Health Mission will lead all national, State and district health agencies, district and local administration, departments

of education, social welfare and public relations and government medical college. The Rotary will ensure the participation of all players (health and non-health) in the private sector.

Last year we wrote in these columns that TB control requires the slowing down of infection, progression and transmission. Pulmonary TB causes transmission, resulting in infection which leads to progression as TB disease. To transform this vicious cycle into a virtuous cycle of TB control, spiralling down TB prevalence continuously, transmission, infection and progression must be addressed simultaneously — this is the Tiruvannamalai TB mantra.

TB bacteria float in the air, people inhale that air and get infected. The closer one is to a pulmonary TB person, the greater the probability of catching infection. We must reduce chances of transmission by insisting that the TB affected should cover their mouth and nose while coughing and sneezing and not to spit in open spaces. Only when the public at large practise cough and sneeze etiquette and refrain from spitting in the open, can we ensure that the TB affected also will follow suit. The Rotary will spearhead public education for behaviour modification, starting in all schools and continuing through to adults.

Progression to TB disease from infection can be prevented by giving World Health Organisation-recommended short-term 'preventive treatment'. Infection is silent, but diagnosable with the tuberculin skin test (TST). Testing all people periodically is not possible. Cohorts of schoolchildren (5, 10 and 15 years) can be tested and those TST positive given preventive treatment. This tactic achieves three results at one go — an infected child gets preventive treatment and points to adults with undiagnosed TB in the household. Finally, the annual TST positive rate provides an objective measure of annual infection frequency for plotting the control trajectory.

World TB Day is observed on March 24. In 2019 the slogan was "It's Time..." to take TB control seriously. On March 13, 2018, the Prime Minister, who was inaugurating the End TB Summit, declared that India would end TB by 2025. On September 26, 2018, the first ever United Nations High Level Meeting on TB declared the urgent agenda "United to end TB – an urgent global response to a global epidemic". Rhetoric and declarations cannot control TB; a strategy of simultaneously using all biomedical and socio-behavioural interventions can.

Ending TB by 2025 is impossible but pulling the TB curve down by 2025 and sustaining the decline ever after is in the realm of reality. True to the spirit of World TB Day theme, we laud Tamil Nadu for deciding 'It's time — to take bold and imaginative initiatives to create a TB control model'. Tamil Nadu, an erstwhile global leader in TB research during the 1960s through the 1990s, will now become the global leader in TB control.

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