

Exploration of TB Control Programme in India: An Analytical Review

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Abstract: India's Revised National TB Control Programme (RNTCP) has made considerable progress in reducing the burden of tuberculosis (TB) in the last decade. However, diagnostic and treatment services by the RNTCP are mostly limited to patients accessing care in the public health system. India's vast, heterogeneous private sector is hardly engaged in TB control. Thus, approximately one million TB patients are either undiagnosed or diagnosed but treated outside the RNTCP. Available evidence suggests that quality of TB care in suboptimal and TB patients (both in the public and private sector) struggle to get rapid, accurate diagnosis and treatment, with an appropriate system to support adherence. This results in delayed diagnosis, ongoing transmission and worsening of the drug-resistant TB situation. Recently, the RNTCP articulated a comprehensive National Strategic Plan (NSP) and formulated the Standards for TB Care in India to provide universal access to quality-assured TB diagnosis and treatment by 2017. Several promising public-private mix models have emerged, and TB advocacy is finally getting traction. Policymakers and political leaders in India now have a unique opportunity to make an impact by making sure the NSP is fully and comprehensively implemented. This will save lives and ensure that the missing million patients get the care they deserve.

Keywords: Tuberculosis, RNTCP, TB patients, TB diagnosis and treatment, NSP

Introduction

A bacterial illness that typically affects the lungs is tuberculosis (TB). Other areas of the body such as the brain and neck, will also expand. A type of bacteria called *Mycobacterium tuberculosis* is caused by it. Tuberculosis was one of the major causes of death in the United States during the twentieth century. The bulk of cases are handled with antibiotics nowadays. It takes a long time, though. The drug should be used for at least 6 to 9 months.

Tuberculosis, even as old as a man himself, is an ancient illness. Wall carvings in ancient Egypt and tomb excavations in Peru date back some 5,000 years suggest that people suffer from tuberculosis and other related diseases. However until 120 years ago, when Robert Koch identified *Mycobacterium tuberculosis* in 1882, it was not possible to classify the causative organism. There was no reliable medication that could cure the disorder until around half a century after the causative organism was identified. The disorder has been curable, but yet difficult to cure, with the detection of Streptomycin and Isoniazid P.A.S., and Rifampicin, Ethambutol and Pyrazinamide. To a large degree, developing countries have managed to control the epidemic, but in underdeveloped countries, the situation is quite grim. Malnutrition, overcrowding, hunger, illiteracy and the poor delivery of government assistance have created a condition where it is not feasible to properly manage the disease, and ineffective care and mutation have contributed to the creation of MDR-TB (MDR-TB). This is really hard. The outbreak of HIV has escalated the issue, and the epidemic, especially in underdeveloped third world countries, is likely to take a bad turn in the coming days. India is no different, and the TB scene still presents a huge threat to the whole healthcare sector today. NGOs should play a significant role in the anti-TB campaign in this troubling condition and function as allies in stopping, controlling and handling this feared disease.

In humans, tuberculosis has traditionally been a significant source of morbidity and mortality. Due to changes in dietary status, general living standards, educational services, and the advent of anti-TB medications, the prevalence of tuberculosis has been substantially decreased in developing countries in the last century. Tuberculosis gained popularity in the mid-1980s and early 1990s because of a rise in the number of cases in sub-Saharan Africa owing to HIV infection and an unprecedented increase in multidrug-resistant cases in developing countries. In 1993, this prompted the World Health Organization (WHO) to label tuberculosis a "global emergency"; several attempts have been made to contain tuberculosis since then. Today, TB in many low- and middle-income countries remains a significant public health concern. Nine million individuals became sick with TB in 2013, of which 1.5 million died due to challenges in receiving sufficient and prompt care and diagnostic facilities. Around 85% of TB disease exists in 22 countries with a heavy prevalence of 2. In areas of poverty, hunger, overcrowding, elevated HIV infection rates and inadequate health systems, TB disease is the most prevalent.

Tuberculosis in India

With a projected annual occurrence rate of 2.1 million cases, India is the nation with the largest tuberculosis burden in the world. There are a variety of explanations for the high burden of TB: a high baseline occurrence rate (an approximate 40% of the Indian population has TB) coupled with a high prevalence of risk factors such as hunger, deprivation, overcrowding, obesity and diabetes help not only the growth but also the spread of TB disease. 5, 6,7,8,9 Inclusive social and economic growth and reducing inequality would be needed to counter these social determinants. It is important to provide health services for early detection and prevention in tandem with social and economic growth, thus offering care and assistance to all who acquire the disease and reducing the length of its spread. This would result in lower morbidity, death and transmission speeds, thus reducing the TB burden. A national programme to control tuberculosis was developed in India in 1962, but it was largely unsuccessful. For three decades, the slow rate

of socio-economic growth coupled with an inadequate public health policy has enabled tuberculosis in the country without altering the amount of citizens infected.

By way of liberalization policies that led to a GDP growth rate of more than five percent per year the early 1990s saw rapid economic development in the region. The Government of India made improvements to the National Tuberculosis Policy at the end of the last century and reintroduced it as RNTCP, including Explicitly Regulated Treatment, the globally prescribed Short Course Technique (DOTS).

Nearly 13,000 sputum smear microscopy review centers and more than 500,000 DOTS centres have been developed as part of the RNTCP to deliver decentralised quality-assured diagnosis and care facilities across the public health sector without interruption. A comprehensive framework of registration and notification was introduced that kept the public health system liable for each identified and handled event under the scheme. The RNTCP identified and handled roughly 1.3 to 1.5 million tuberculosis patients each year from 2007 to 2013, obtaining an average success rate for care of more than 80 percent. The implementation of DOTS has culminated in more than 14 million TB patients seeking systematic care and treatment. Between 1997 and 2011, it was reported that more than 2.6 million additional lives were saved by efficient detection and care between 1997 and 2011. 10 The model also revealed that management of tuberculosis in India was highly cost-effective.

As a result, tuberculosis incidence decreased from around 430 cases per 100,000 population in 1990 to 211 cases per 100,000 population in 2013, and the tuberculosis mortality rate decreased from 42 per 100,000 population to 19 per 100,000 population. In 2013 citizens. Tuberculosis infection (a population indicator of TB transmission) declined from 1.5 percent in 2000-03 to 1.0 percent in 2009-10.¹³ however more improvement was stopped by significant challenges.

Next, it is projected that around 1 million TB cases are lost per year by the RNTCP, 14 either because TB patients are undiagnosed or because the service is diagnosed but not alerted. This is because of the diverse landscape of the healthcare delivery framework in India, which involves several various kinds of public and private sector caregivers. RNTCP programmers are primarily confined to people seeking medical treatment from public health providers, with private sector intervention being very small. Nearly half of the country's TB patients are reported to be identified and handled in the private sector¹⁵ after attending several healthcare services in a private or informal setting, even patients who arrive at public health facilities and are eventually treated by the RNTCP do so. Second, people are concerned about the increase in drug-resistant tuberculosis cases in the country. 17 Multi-drug-resistant tuberculosis (MDR-TB; the two most effective drug-resistant-TB drugs (isoniazid and rifampicin) each year are 18. There are also signs that more extensively drug-resistant tuberculosis (XDR- TB; In addition to fluoroquinolone resistance and injections used to treat TB, it is also determined to be multidrug-resistant tuberculosis); this situation may worsen. Due to the introduction of rapid molecular testing, reports have been reported in urban hot spots such as Mumbai Increasing cases of multidrug-resistant tuberculosis. The growing trend of drug-resistant tuberculosis indicates that the management of tuberculosis is insufficient.²¹ Therefore, some people believe that there is an urgent need to pay attention to the level of tuberculosis treatment in the country.

Issues Related to Quality of TB Care in India

Three fundamental criteria are focused on TB care: early and reliable evaluation, implementation of the right drug protocol, and medical service to maintain enforcement. In caring for TB patients, health care professionals play an important part. Diagnosis and treatment best practices are specified in the International Guidelines for Tuberculosis Care (ISTC). India has set up its own edition of these guidelines, the Indian Tuberculosis Patient Treatment Standards, which are broadly consistent with the ISTC.

In India, it is necessary to ensure that all individuals who have had a productive cough for more than two weeks have a pulmonary TB screening test to ensure an early diagnosis of TB. In order to obtain treatment at an early level, individuals usually should not attend health centres. Though these people are willing to access health centres, about a third of doctors do not expect TB, ²⁴ and only grade III sputum checks may be done to prove pulmonary tuberculosis while they suspect TB.

For the diagnosis of tuberculosis, demonstration of Mycobacterium tuberculosis in sputum is needed. Microscopy of the sputum smear is commonly accessible at peripheral public health clinics. It does have its limitations, however. About one third of cases of pulmonary TB have not been identified or drug resistance has been detected. Moreover, India has one quality assured sputum smear microscopy center per 100,000 population on average and less than one per 10 million population in a quality assured drug resistant TB diagnostic center, ²⁵ suggesting inadequate access to these facilities. Sputum research in the private sector is seldom utilized. As a result, there is a period of nearly two months prior to the detection of TB ²⁶ and approximately one third of patients with TB are lost or handled empirically without a bacteriologically verified diagnosis. The tradition of initial drug susceptibility monitoring for detecting drug tolerance is low.

The first-line regimens of TB used in the treatment of TB (for a period of six to eight months) in RNTCP are ISTC compliant. Mechanisms to ensure adherence to TB drugs exist in the form of DOTS providers. There is a recording and reporting system in place that provides information on the number of patients diagnosed and the results of their treatment. However, there are two main criticisms of RNTCP treatment. First, it is an alternate daily regimen (patients take TB medicines three times a week) rather than a daily regimen. Today's alternate regimens are known to have similar treatment results, ²⁷ but still many providers consider it an inferior practice. Second, a directly supervised treatment regimen may not be patient-friendly. This is evidenced by the fact that approximately a third of patients do not take medications regularly and that 5-15% of patients miss out on follow-up before completing their treatment.

On the other hand, the TB drug regimens used in the private sector are quite variable and often do not live up to the standard. It appears that nearly a third of doctors in the private sector do not know the correct treatment regimen for TB. ^{29, 30} there are no systems in place to support adherence to treatment, and case notifications are not routinely made, although a government order requires that all TB cases be reported to the RNTCP. Therefore, long-term outcomes for TB patients in the private sector are largely unknown. The National Tuberculosis Control Program (RNTCP) has developed a formal reporting system, but it is not fully operational to collect information on all TB cases that have been diagnosed and treated in the private sector.

Tuberculosis Risk Factors

You could be more likely to become infected with TB if:

An acquaintance with active TB illness, a co-worker or a family member.

You reside in a region where TB is popular, such as Russia, Africa, Eastern Europe, Asia, Latin America and the Caribbean, or have travelled to it.

Your section of the community where TB is more likely to propagate, whether you collaborate for someone who spreads or reside with them. This involves those who are homeless, persons infected with HIV, people in hospital or jail, and persons who inject narcotics into a vein.

You operate in a hospital or care home or remain there.

For patients at high risk for TB, you are a health care provider.

- You are smoking.

TB bacteria are defended off by a balanced immune system. But you do not have the potential to protect yourself from active TB if you have:

AIDS or HIV

Diabetic

Extreme kidney illness

Cancers of the Head and Neck

Treatments for cancer, including chemotherapy

Poor weight and malnutrition in the body

Organ transplantation drugs

Any rheumatoid arthritis, Crohn's disease and psoriasis prevention medications

Babies and small children, since their immune systems have not completely developed, are often more vulnerable to infection.

Current WHO-assisted ongoing TB control program

In 1992, the Government of India, together with WHO and the Swedish International Development Agency (AIDS), reviewed the national program and concluded that it suffers from poor management, insufficient funding, over-reliance on X-rays and inadequate treatment regimens. Standard, low rates of compliance and treatment completion, and a lack of systematic information on treatment outcomes. Around the same time, in 1993, the World Health Organization declared TB a global emergency, instituted a DOTS strategy, and recommended that all countries adopt this strategy. This strategy was based on five pillars, namely political commitment and continued funding of TB control programs, sputum smear diagnostics, and continued supply of high-quality TB drugs, and controlled drug administration. Direct and accurate reporting and recording of all registered cases.

The World Bank recognized the DOTS strategy as the cheapest health intervention and agreed to provide fiduciary assistance to the NTCP, initially covering a population of 271 million people, which was subsequently revised to include 730 million people. . Currently, there are other bilateral and multilateral agencies, the Danish Agency for International Development (DANIDA), the Department for International Development (DFID), the United States Agency for International Development (USAID), the Global Fund to Fight HIV / AIDS, which provide both TB and Malaria (GFATM). The Global Drug Facility (GDF) and the World Health Organization have invaluable support for the program. The Global Fund to Fight HIV / AIDS, Tuberculosis and Malaria is the main source of external funding for TB control.

To give new impetus and revitalize the NTCP, with the help of the above-mentioned international agencies, the Revised National Tuberculosis Program (RNTCP) was launched in 1997. It developed and adopted the internationally recommended DOTS strategy as the most systematic and cost-effective approach to revitalize the program. Political and administrative commitment to ensuring the provision of structured and comprehensive TB services; Early and reliable diagnosis by means of microscopy; Constant supply of good quality TB drugs; Effective and patient-friendly treatment with short-term chemotherapy (SCC) administered under direct observation; Great emphasis has been placed on accountability through adequate reporting, records and effective oversight. Today, the DOTS program in India is the largest and fastest expanding program in the world in terms of patients starting treatment; The second largest in terms of population coverage.

Conclusion and future scope

The Updated National Tuberculosis Control Policy (RNTCP) of India has made considerable strides over the past decade in reducing the burden of tuberculosis (TB). RNTCP assessment and recovery services are however, generally confined to patients seeking coverage by the public health system. In managing TB, the broad, heterogeneous private sector is rarely involved. Nearly a million TB cases have not been confirmed or diagnosed yet are being handled outside of RNTCP. Available data suggests that the quality of TB care would not include timely and specific treatment and evaluation for sub-optimal and TB patients (both in the public and private sectors), with an appropriate structure in place to promote adherence. This leads in slow detection, continuing spread of the disorder, and aggravation of drug-resistant TB. In order to provide systematic access to assured diagnosis and treatment of TB, the RNTCP has recently developed a Detailed National Strategic Plan (NSP) and defined standards for TB care in India.

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