

Epidemic situation of tuberculosis in Bangladesh: An overview

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Tuberculosis (TB), one of the important re-emerging infectious diseases, is a clinical disease caused by infection with *Mycobacterium tuberculosis* and is characterized pathologically by the formation of granulomas.¹⁻³ One third of the world's population is latently infected with the causative agent *Mycobacterium tuberculosis* and annual new cases of TB worldwide counts approximately 9 million as well as this disease is associated with more deaths than any other single infectious agents because of its infectious nature.^{1,2} Despite being preventable and curable, the global TB report of 2015 highlighted that TB now ranks as a leading infectious disease killer globally alongside Human Immunodeficiency Virus (HIV).⁴ In 2014, nearly 10 million people became ill with TB, resulting in 1.5 million deaths. Only 6 million cases of TB were reported in 2014, out of a global estimate of 9.6 million cases, leaving nearly 40% of the cases being undetected. Only a quarter of the 480,000 cases of multidrug-resistant TB estimated in 2014 were detected and reported. The annual estimated prevalence and incidence rates of all forms of TB were 404 and 227 per 100,000 populations respectively, in 2014. Furthermore, TB is a leading cause of death of HIV-positive people; in 2015, one in three HIV deaths was due to TB.⁴

In Bangladesh, TB case notifications have increased significantly since 2012, mainly driven by increased numbers of extra-pulmonary and clinically diagnosed pulmonary cases.⁶ After all facing TB as a major global health problem, Bangladesh is an outstanding example of implementing TB control in partnership with Non-Government Organizations (NGOs). The year 2016 is the first year of implementation of the World Health Organization (WHO) End TB Strategy in the context of the United Nations Sustainable Development Goals (SDGs) Agenda, both of which include the aim of ending the TB epidemic.⁵ In order to end the TB epidemic, strengthening of health and social sectors is needed by achieving universal health coverage and social protection, which are also emphasized within the framework of the new SDG agenda. Between 2000 and 2014, improvements in quality-assured diagnosis and treatment of TB contributed to saving 43 million lives worldwide.^{4,5}

The National Tuberculosis Programme (NTP) of the Government of Bangladesh (GoB) adopted the DOTS (Directly Observed Treatment Short course) strategy in 1993.⁶ Building Resources Across Communities (BRAC) signed an (Memorandum of Understanding) MoU with the GoB in 1994 to expand DOTS services nationwide to strengthen health system and expand

DOTS nationwide since 2004. BRAC's TB control programme now covers 298 sub-districts in 42 districts with a population of approximately 93 million including Chittagong Hill tracts.⁶ At present the case notification rates of new smear positive TB have increased significantly to a rate of 71/100,000 population in 2015 compared with 46/100,000 in 2004. Additionally, the treatment success rate has crossed the target (85%) and gradually increased to 94% in 2014, from 85% in 2003.

The National Tuberculosis Control Programme (NTP) is responsible for programme coordination, management, development of national guidelines, strategies for Advocacy, Communication and Social Mobilization (ACSM), capacity building, procurement and supply chain management, and monitoring and evaluation. NGOs are providing support for strengthening the government health system through community-based expansion of DOTS for both drug susceptible (DS) and drug resistance (DR) TB as well as strengthening laboratory services, diagnosis, treatment, follow-up, transportation and local storage of drugs, training and ACSM activities, performance review, and monitoring and supervision.⁶

Sound laboratory management including quality-assurance helps maintain high standards of diagnostic services and to address the requirements for increasing population access to diagnostic and treatment services, and to improve the quality of microscopy services 421 laboratories are running by BRAC.⁶ There are 26 external quality assurance (EQA) laboratories for assuring the quality of these peripheral microscopy centres. BRAC jointly with NTP is scaling up public and private partnership in the corporate sector and involvement of civil society and community.⁶ Strong partnerships and collaboration across the health sector is needed to expand and improve the DOTS services.⁶

In addition to the coordination outlined in the formal agreements, there is also an important element of informal collaboration among partners based on professional capabilities, interpersonal relations and frequent communication for problem solving. Vehicles for these partnership activities include National Anti Tuberculosis Association of Bangladesh (NATAB) advocacy meetings at sub-district, district and divisional levels. Formal linkages between NTP, NGOs, and public-private sector health care providers helped to increase coverage, case detection and quality of treatment. A monitoring system to supervise and evaluate Public Private Mix (PPM) activities by NTP and partner NGOs helped in identifying gaps in terms of

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activities and resources, and improving the quality of the programme. Some challenges still remain. Case detection is low in urban areas and in a few rural areas. Detection of child TB cases is still low. Systematic screening of contacts and preventive treatment of selected high risk groups are now an integral part of patient care and prevention. To increase diagnosis of child TB cases, emphasis has been given on tracing of all children under 15 years who are in close contact with pulmonary TB cases. During the reporting period (July 2015-June 2016) total 229 child TB (0-14 yrs) and 643 adult TB (>15 yrs) diagnosed from contact tracing in BRAC supported areas.^{1,3}

Early diagnosis of MDR-TB requires expanding access to Drug Susceptibility Testing (DST). Strengthening DST capacity and expanding treatment services for DR-TB need to be undertaken in parallel. NTP has started community based ambulatory treatment of DR-TB from June 2012.⁴ Under community-based programmatic management of drug resistant TB, ambulatory care for drug resistant TB patients at community level has been emphasized with proper DOTS and follow up tests. However, DST services are still limited and only a few DR-TB cases are diagnosed and treated by NTP in relation to the estimated case load. Uninterrupted supply of drug and logistics are also crucial for TB control.

TB screening is ineffective without linkages to high-quality treatment, care and support services. It is therefore essential to review and optimize referral chains and plan for tailored treatment, care and support services for targeted groups. Networking and linkages with private doctors have been strengthened during the reporting period in order to increase detection of smear negative, extra pulmonary, child TB and MDR TB. Financial support for increasing case notification among poor people has also been provided. This support includes costs for diagnostic tests (X-ray, FNAC, Biopsy, etc.), consultation fees, travel cost, and nutritional support for MDR TB and TB/HIV co-infected cases. As a result, the detection rate of smear negative and extra pulmonary TB has increased. BRAC has also been implementing tobacco cessation activities in 17 peri-urban TB control service facilities in Dhaka since 2011, covering about 2.8 million populations.⁴⁻⁶

The TB Control Programme in Bangladesh has achieved good coverage of case detection and treatment success rates over the past few years, but the present findings warrant intensified TB control activities be continued, with increased emphasis given to older people and the rural population of the country.² Early detection of all people with TB requires clear and simple protocols for identification of persons with suspected TB by community health workers and volunteers, mechanisms for timely referral for diagnosis and follow-up, and recording and reporting systems for monitoring and evaluation. The successful implementation of smoking cessation program also crucial for controlling TB in Bangladesh. This is encouraging for other low-resource settings, and NTP should consider nationwide scale-up and integration of this smoking cessation plan with effective TB control.⁷

References

1. Raviglione MC, Snider Jr DE, Kochi A. Global epidemiology of tuberculosis: Mortality and morbidity of a worldwide epidemic. *JAMA* 1995;273:220e6.
2. Centers for Disease Control and Prevention: Case definitions for infectious conditions under public health surveillance. *MMWR Morb Mortal Wkly Rep* 1997; 46:1-55.
3. Zaman K, Hossain S, Banu S, Quaiyum MA, Barua PC, Salim MH, Begum V, Islam MA, Ahmed J, Rifat M, Cooreman E. Prevalence of smear-positive tuberculosis in persons aged ≥15 years in Bangladesh: results from a national survey, 2007-2009 *Epidemiol infect* 2012 Jun 1;140 (06):1018-27.
4. World Health Organization (WHO). Global Tuberculosis Report 2015. Geneva: WHO, 2015.
5. United Nations Sustainable Development Agenda. <http://www.un.org/sustainabledevelopment/development-agenda/> (Accessed Nov 2016)
6. National Tuberculosis Control Programme (NTP). Tuberculosis control in Bangladesh. Annual Report 2015. Dhaka: Director General of Health Services, 2015.

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