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Short Communication

Rapid Health Data Report: TB Rates in India, 2011-2014 -Public Health Implications

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ABSTRACT

In South-East Asia, TB remains a concern for all the nations of the region. While South-East Asia it accounts for approximately a quarter of the world's population, the countries making up the area account for 41% of the new cases of TB world-wide. As reported by the WHO Regional Office for South-East Asia, TB prevalence was estimated at 5.4 million cases in 2014, while TB incidence was almost 4 million cases. The interest here is India. In 2014, India had the largest number of TB cases (23%) in the South-East Asia Region. The incidence rate of all forms of TB was 167 per 100,000 people, or 2.2 million cases. The prevalence rate of all forms of TB was 195 per 100,000 people, or 2.5 million cases. The mortality rate for all forms of TB, excluding HIV, was 17 per 100,000 people. Given the epidemiology of TB, both in India and the region as a whole, we sought to reflect upon the potential for public health measures that could help India address the burden of TB. In this rapid health data report, we highlight TB Incidence Rates, Prevalence Rates, Mortality Rates, and Case Notification for India between 2011 and 2014. Then, we reflect on the opportunities for public health practice to aid in TB prevention and control for India.

Key words: India, Tuberculosis, Public Health Practice, Descriptive Epidemiology.

INTRODUCTION

The World Health Organization (WHO) reminds us that tuberculosis (TB) is a contagious disease caused by Mycobacterium tuberculosis. Like the common cold, it spreads through the air. People who are infected with pulmonary TB (TB of the lungs, the site most commonly affected) can spread the disease by coughing, sneezing or even talking. If the disease goes untreated, each person with active TB infects, on average, 10-15 others every year. [(1)] TB has been present in the human population for a very long time, and we are working hard to eliminate it. In their recent Global Tuberculosis Report for 2015, the WHO highlights three, main findings pertaining to global efforts to reduce the burden of tuberculosis: [(2)]

- In 2014, there was a 47% drop in the TB mortality rate since 1990, with most of this improvement occurring since the year 2000.
- Between 2000 and 2014, 43 million lives have been saved world-wide due to effective TB diagnosis and treatment.
- TB is a contagious, airborne infectious disease that is a leading cause of mortality world-wide, along with HIV/AIDS.

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was estimated at 5.4 million cases in 2014, while TB incidence as almost 4 million cases. During this same time period, 460,000 people died of TB. [(3)]

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Given the epidemiology of TB, both in India and the region as a whole, we sought to reflect upon the potential for public health actions that could help India address the burden of TB. In this rapid health data report, we highlight TB Incidence Rates, Prevalence Rates, Mortality Rates, and Case Notification for India between 2011 and 2014. Then, we reflect on the public health practice opportunities for TB prevention and control in India.

MATERIALS AND METHODS

This brief report utilized an ecological study design. We used the data found in the WHO/South-East Asia Region Annual Reports for TB for 2015 and 2016. Additionally, we consulted the Annual Reports for India's TB control program for the years 2015, 2014, 2013, 2012, and 2011. [(4)] The important TB data variables (incidence, prevalence, mortality, and case notification) were abstracted from these data sources and descriptive statistics were used to examine the data. These data were publically available.

RESULTS

Because of the size of its population and the economic potential for the entire region, the TB burden in India is of special concern. As the most populous democracy, control of TB world-wide may depend on the efforts of India. Therefore, we sought to describe the burden of TB in India between 2011 and 2014 (see Figure 1 and Figure 2, below).

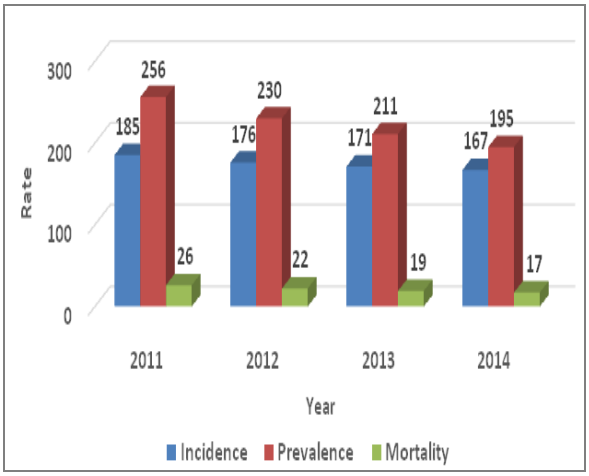

Figure 1: TB Incidence, Prevalence, and Mortality (per 100,000) in India, 2011-2014

Source: "Tuberculosis control in the South-East Asia Region, Annual Report 2016." World Health Organization, South-East Asia Regional Office; TB India-Annual Status Reports, 2011-2015. Government of India, Central TB Division.

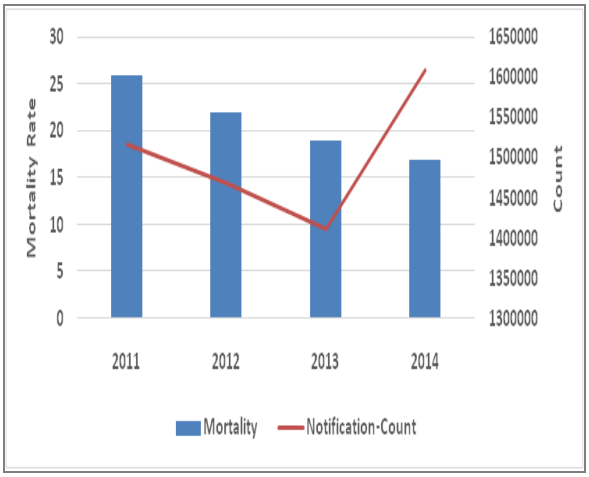

Figure 2: TB Mortality (per 100,000) and TB Case Notification in India, 2011-2014

Source: "Tuberculosis control in the South-East Asia Region, Annual Report 2016." World Health Organization, South-East Asia Regional Office; TB India-Annual Status Reports, 2011-2015. Government of India, Central TB Division.

DISCUSSION

Public Health Implications

The previous figures show TB data in India over a four-year period. In Figure 1,

there was a consistent downward trend in terms of TB incidence, prevalence, and mortality in India. The mortality rates were several times lower than the incidence or prevalence. The country is one of the most populous countries in the world, so although the rates are high, the downward trend must be noted.

Figure 2 is very interesting. We see that both the TB mortality rate and TB case notification declined in 2011, 2012, and 2013. However, in 2014, TB case notification increased at the same time as the mortality rate decreased in India. This is a very noteworthy pattern.

Given the programmatic success indicated thus far, officials acknowledged that major challenges continue to exist in achieving universal access to TB prevention, care, and control services in India (3): TB care in the private sector; vulnerable and marginalized populations; community participation, ownership, engagement, and social support; the implementation of airborne infection control; and adequate financial resources.

Several of the previous challenges are amenable to public health practices. [5-7] A key element of public health practice is the collection, analysis, interpretation, and use of public health data for the purpose of population-level health promotion and disease prevention activities. From this perspective, public health practitioners can aid in the collection, analysis, understanding, and dissemination of public health surveillance data to help decision-makers better allocate financial resources and personnel to address care and control measures among the Indian population.

Another example is the role that public health professionals play in disease prevention and health promotion strategies that have their foundation in community engagement. It is possible for public health professionals working in collaboration with medical professionals and community members to develop appropriate airborne infection control measures that would be accepted and implemented across India. Furthermore, Public health professionals could work with community members to develop community-based health education and promotion interventions that seek to empower communities throughout India to take steps to avoid the community risk factors associated with TB infection. Public health professionals and community members can, also, work together to identify and develop additional actions to help TB prevention and health promotion in locations throughout the country.

This rapid report highlights recent findings from WHO reports pertaining to TB in India and the South-East Asia region. These findings provide an opportunity to propose how public health practice might contribute to additional TB prevention and control efforts in India. As follow-on study, it might be possible to explore the relationship between TB mortality and TB case notification rates in India and the role that public health may play in continued TB prevention and control activities.

CONCLUSIONS

The proposed public health actions (above) support the WHO TB prevention and control strategies [8,9] by adding the expertise of public health professionals in the effort to reduce the burden of TB. Public health professionals add their expertise in public health surveillance and population health data analysis to help strengthen health system decision-making founded on primary health care. Additionally, public health professionals in collaboration with medical professionals and community leaders help engage medical providers and empower community members to take actions that may further prevent and control TB in communities throughout India. Given the size of the Indian population, public health expertise in India may contribute to the TB prevention and control efforts of the nation and help reduce the overall TB burden of the entire South-East Asia Region.

REFERENCES

1. World Health Organization. Fact Sheet, No. 104: Tuberculosis (Reviewed: March 2016). Geneva: WHO, 2016.
2. World Health Organization. Global Tuberculosis Report, 2015. Geneva: WHO, 2015.
3. World Health Organization, South-East Asia Regional Office. Tuberculosis control in the South-East Asia Region: Annual Report 2016. New Delhi: World Health Organization, SEARO, 2016.
4. Government of India. TB India 2015, 2014, 2013, 2012, and 2011-Annual Status Reports. New Delhi: Central TB Division, Ministry of Health and Family Welfare. Available from: URL: http://tbcindia.nic.in/index.php.
5. Webber R. Communicable disease epidemiology and control: a global perspective, third edition. Oxfordshire: CABI, 2009.
6. Adams L and Butterly J. Diseases of poverty: epidemiology, infectious diseases, and modern plagues. Lebanon, New Hampshire: Dartmouth College Press, 2015.
7. Bonita R, Beaglehole R, Kjellstrom T. Basic Epidemiology, second edition. Geneva: WHO, 2006.
8. World Health Organization. The End TB Strategy. Geneva: WHO, 2015.
9. World Health Organization. TB Prevention, Care, and Control. Geneva: WHO, 2011.

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