

*Short Communication*

## Holistic Approach for Teaching Tuberculosis in Medical Education

Saurabh RamBihariLal Shrivastava\*, Prateek Saurabh Shrivastava, Jegadeesh Ramasamy

Department of Community Medicine, Shri Sathya Sai Medical College & Research Institute, Kancheepuram, Tamil Nadu, India

### Article info

#### Article History:

Received: 12 Oct 2013  
Accepted: 27 Jan 2014  
ePublished: 29 May 2014

#### Keywords:

Tuberculosis,  
Medical education,  
Medical colleges,  
India

### Abstract

Tuberculosis (TB) is the foremost cause of mortality attributed to a curable infectious disease globally, accounting for 8.6 million new cases in the year 2012, of which India alone has a share of almost 25% of cases. Medical colleges have been acknowledged as tertiary level health care centers and have a key role in the diagnosis and management of different types of TB cases. However, a wide range of barriers and deficiencies have been acknowledged in the medical education curriculum over a period of time with regard to teaching of TB control. To combat the magnitude of TB on the health sector in Indian set-up, there is a crucial need for establishing a mutual and complementary partnership between policy makers, delegates from the medical colleges, and the regulatory body for medical education. In summary, medical students are the future health care providers for the general population and thus a well-organized medical education curriculum can play a significant role in reducing the magnitude of tuberculosis in the coming decade.

### Introduction

Tuberculosis (TB) is the foremost cause of mortality attributed to a curable infectious disease globally; accounting for 8.6 million new cases in the year 2012, of which India alone has a share of almost 25% of cases.<sup>1</sup> Further, India has also been categorized as a high-burden country for its contribution to the pool of drug-resistant TB cases worldwide.<sup>1</sup>

#### Challenges to TB control activities in India

Tuberculosis related prevention and control activities appear even more challenging owing to the presence of a wide range of socioeconomic and health care delivery system related factors such as poor ventilation;<sup>2</sup> slum population;<sup>1</sup> overcrowding;<sup>1,2</sup> low level of awareness among the general population and health workers;<sup>2</sup> inadequate number of health care providers in the rural / tribal areas;<sup>3</sup> untrained and uninvolved private medical practitioners;<sup>2,4</sup> dearth of legal provisions;<sup>2,4</sup> and ignorance among medical students.<sup>5</sup>

#### Role of Medical Colleges

Medical colleges have been acknowledged as tertiary level health care centers and have a key role in the diagnosis and management of the sputum negative and extra-pulmonary TB patients, management of treatment related complications, supervision of diagnosed cases, transfer in/out and/or referral in/out activities, undertaking research work, and for ensuring timely modification in the guidelines of the Revised National Tuberculosis Control Program (RNTCP) with the assistance of faculties.<sup>4</sup>

#### Medical Colleges: Identified bottlenecks

A wide range of barriers and deficiencies have been acknowledged in the medical education curriculum over a period of time with regard to teaching of TB control-related activities to the undergraduate and postgraduate medical students.<sup>4,5</sup> Among all, the crucial ones are no/minimal sensitization of students about TB at the time of entry into medical college; no orientation with the clinical aspects of subjects like anatomy and physiology; dearth of integrated sessions; low awareness about the latest specifications for diagnosis and treatment in both faculty and students; non-scientific examination pattern; poorly framed question papers; no universal mandatory requirement for ensuring training of faculties in different aspects of medical education; and presence of a wide gap between the medical education and the public health department.<sup>4,5</sup>

#### Proposed measures

To combat the enormous magnitude of TB on the health sector in Indian set-up, there is a crucial need for establishing a mutual and complementary partnership between policy makers, delegates from the medical colleges, and the regulatory body for medical education in India. These agencies can work together to implement different steps, such as compulsory training of all faculty members in medical education; initiation of a foundation course immediately after admission to expose undergraduate students to help them understand medicine effectively; advocating early clinical exposure preferably from the first year itself; planning faculty

\*Corresponding authors: Saurabh Rambiharilal Shrivastava, Email: drshrishri2008@gmail.com

© 2014 The Authors. This is an Open Access article distributed under the terms of the Creative Commons Attribution (CC BY), which permits unrestricted use, distribution, and reproduction in any medium, as long as the original authors and source are cited. No permission is required from the authors or the publishers.

and students recharge activities about TB with the help of district TB officers; conducting regular integrated sessions; including TB related exercises in theory/practical/clinical examinations; organizing interactive sessions and role plays; mobilizing resources to facilitate community based training for medical students; arranging field visits to the district TB center/ designated microscopy center; ensuring posting of students in directly observed treatment (DOTS) center during their clinical postings; conducting regular quiz/debate/poster competition; motivating undergraduate and postgraduate medical students to pursue operational research or thesis on unexplored areas of TB; and continuous monitoring and periodic evaluation of the implementation of above suggestions by the medical college core committee, in a time-bound manner.<sup>4-6</sup>

### **Conclusion**

Medical students are the future healthcare providers for the general population; thus, well-organized medical education curriculum can play a significant role in reducing the magnitude of tuberculosis in the coming decade.

### **Competing interests**

No competing financial interests exist.

### **References**

1. World Health Organization. Global tuberculosis control report 2013. Geneva: World Health Organization;2013.
2. TBC India. Managing the rntcp in your area - a training course (Modules 1-4). India: TBC;2011.
3. Shrivastava SR, Shrivastava PS, Ramasamy J. Implementation of public health practices in tribal populations of india: challenges and remedies. *Healthc Low Resour Settings* 2013;1:e3.
4. Shrivastava SR, Shrivastava PS, Ramasamy J. Knowledge and practices about revised national tuberculosis control program among clinicians of a medical college in India: a cross-sectional study. *Progress in Health Sciences* 2013; 3:94-103.
5. Zhao Y, Ehiri J, Li D, Luo X, Li Y. A survey of TB knowledge among medical students in Southwest China: is the information reaching the target? *BMJ Open* 2013; 3:e003454.
6. Vision – 2015, Medical council of India [internet]. New delhi: Medical Council of India; 2011. [cited 2013 Jan 25]. Available from: [http://www.mciindia.org/tools/announcement/MCI\\_booklet.pdf](http://www.mciindia.org/tools/announcement/MCI_booklet.pdf)