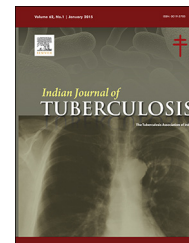


Available online at www.sciencedirect.com

ScienceDirect

journal homepage: <http://www.journals.elsevier.com/indian-journal-of-tuberculosis/>

Original Article

Decadal impact of Directly Observed Treatment Short course program on age and gender among New Infectious Tuberculosis cases in Delhi

Tanu Anand^{a,*}, Nandini Sharma^b, Shivani Chandra^c, G.K. Ingle^d, Shekhar Grover^e

^a Assistant Professor, Department of Community Medicine, North DMC Medical College, Delhi-07, India

^b Director Professor, Department of Community Medicine, Maulana Azad Medical College, New Delhi-02, India

^c WHO Consultant

^d Director Professor & Head, Department of Community Medicine, Maulana Azad Medical College, Delhi-02, India

^e Scientist B, National Institute of Cancer Prevention & Research, Noida, India

ARTICLE INFO

Article history:

Received 10 August 2015

Accepted 11 May 2017

Available online xxx

Keywords:

New sputum positive cases
Revised National Tuberculosis
Control Programme
Epidemiological transition
Gender
DOTS

ABSTRACT

Background: Burden of tuberculosis in India remains enormous. The Revised National Tuberculosis Control Programme (RNTCP), based on the Directly Observed Treatment Short course (DOTS) strategy, was launched in 1997 in India. The question of what DOTS has or has not accomplished over the past 15 years is a central technical question.

Objectives: To assess the decadal impact of DOTS strategy on some epidemiological factors such as age and gender of new sputum positive (NSP) TB patients in Delhi.

Material and methods: Secondary Data for Delhi was obtained from the state wise performance of RNTCP (Annual Summary) for the year 2001 and year 2012. Data was analyzed in Microsoft Excel 2007.

Results: The population of Delhi covered under DOTS has considerably increased over the decade. The case detection rate has also shown a considerable increase from 196/100,000 population in 2001 to 306/100,000 population at the end of Quarter 3 of 2011. The number of NSP male and female patients have increased in all age groups from 2001 to 2011 except in 25–34 years age group. NSP male patients on DOTS aged 15–44 years showed a left ward shift in increase, a significant right ward shift was noted in increase in female NSP patients of similar age group.

Conclusions: The decadal assessment of DOTS in Delhi on TB epidemiology has pointed towards beginning of epidemiological transition in TB control in India.

© 2017 Tuberculosis Association of India. Published by Elsevier B.V. All rights reserved.

* Corresponding author at: Assistant Professor, Department of Community Medicine, North DMC Medical College, Hindu Rao Hospital, Delhi-110007, India. Tel.: +98 11028964.

E-mail address: drtanu.anand@gmail.com (T. Anand).

<http://dx.doi.org/10.1016/j.ijtb.2017.05.009>

0019-5707/© 2017 Tuberculosis Association of India. Published by Elsevier B.V. All rights reserved.

1. Background

Tuberculosis (TB) continues to remain a major public health problem. TB is one of the top 10 causes of death worldwide.¹ According to World Health Organization Global Tuberculosis Report 2016, 10.4 million people fell ill with TB and 1.4 million died from TB in 2015.² India, China along with Russian Federation is accounting for 45% of the world's TB cases.² India is the highest TB burden country with World Health Organisation (WHO) statistics for 2015 giving an estimated incidence figure of 2.84 million cases of TB for India out of a global incidence of 10.4 million cases.² Thus, evidently burden of tuberculosis in India remains enormous despite the availability of treatment that will cure tuberculosis.

The Revised National Tuberculosis Control Programme (RNTCP), based on the Directly Observed Treatment Short course (DOTS) strategy, began as a pilot in 1993 and was launched as a national programme in 1997 in India. The RNTCP has made great progress in the last decade with universal expansion of DOTS strategy in 2006 and achievement of the global target of 70% case detection while maintaining the treatment success rate of more than 85% since 2007.³ Despite this progress, TB incidence and mortality in the country continue to be high. Given that DOTS will likely continue to occupy a central place in tuberculosis control efforts in coming years, the question of what DOTS has or has not accomplished over the past 15 years is a central technical question.⁴

The present paper aims to assess the decadal impact of DOTS strategy on some epidemiological factors such as age and gender of new sputum positive (NSP) TB patients in Delhi. There is a differential risk of developing TB by age. It is common to see a J-shaped curve of TB incidence rates by age, with higher rates in younger children from infancy to pre-adolescence. Rates increase abruptly during the adolescent years and remain high throughout adulthood, with a tendency to increase as age progresses.⁵ In the population where the transmission has been stable or increasing, the incidence rate is higher in children mostly because of recent infection or re-infection. As transmission falls, the case load shifts to older adults mainly because of reactivation of LTBI at later ages.⁶ Evidence from studies in US and Europe re-affirms this fact that with improvement in tuberculosis control, there is an upward shift in median age of occurrence.⁷

Gender wise analysis of tuberculosis incidence shows the prevalence of TB to be higher among males as compared to females in India.⁸ The reasons for these differences are likely to result from various factors, including access to care, ethnicity, the influence of the HIV co-epidemic, as well as

other biological, social and cultural variables.⁵ The importance of a gender perspective on current policies regarding disease prevention and treatment is slowly being recognized. Introduction of health system reforms have shown to impact the gender specific notification rates in several countries.^{9,10} Age and gender wise trends in TB in India are known. But there is paucity of evidences assessing the impact of programmatic measures on these factors with respect to occurrence of tuberculosis. Therefore, we seek to examine the differences in epidemiological trends of TB from 2001 to 2011.

2. Material and methods

Settings: Delhi is a Metropolitan city State with a population of over 17 million. It is estimated that 40% of its population is infected with TB and the occurrence of new TB cases is 209/100,000 population/year.¹¹ The state has been implementing DOTS since 1997 and on the two international goals of RNTCP, Delhi program has been rated as the best performing in the country consecutively for five years (2005 to 2009) amongst the States and Union Territories of India.¹¹

Methods: We sought to assess the decadal impact of DOTS program in Delhi among NSP TB patients primarily on two factors: age and gender. Since the definition of sputum smear positive case has largely been consistent across time and place and since smear positive cases have been the primary target of DOTS strategy since its inception,^{4,12} we limited our analysis of data to this cadre of patients only. The performance of RNTCP is monitored on the basis of Treatment success rate and NSP Case Detection rate. Therefore, impact of DOTS strategy on these two key dimension of tuberculosis control was also assessed.

Data for Delhi was obtained from the state wise performance of RNTCP (Annual Summary) for the year 2001 and year 2012.^{13,14} Data was analyzed in Microsoft Excel 2007.

3. Results

Table 1 shows that the population of Delhi covered under DOTS has considerably increased over the decade. The case detection rate has also shown a considerable increase from 196/100,000 population in 2001 to 306/100,000 population at the end of Quarter 3 of 2011. Success rate and sputum conversion rate of NSP patients have, however, seen a meagre rise only.

Fig. 1 depicts the age wise distribution of NSP male patients on DOTS in the year 2001 and 2011. The diagram shows that the number of NSP male patients on DOTS in each age group

Table 1 – Comparison of indicators of Case Finding, Smear Conversion and Treatment outcome in Delhi in year 2001 and 2011.

S. No.	RNTCP indicators	2001	2011
1.	Population covered under DOTS (in lakhs)	138	170
2.	Annual Total detection rate (per lakh population)	196	306
3.	Total cases treated	26,380	52,206
4.	3 month conversion rate of new sputum positive patients (%)	88	89
5.	Success rate of New Sputum positive patients (%)	83	85

Download English Version:

<https://daneshyari.com/en/article/5672320>

Download Persian Version:

<https://daneshyari.com/article/5672320>

[Daneshyari.com](https://daneshyari.com)