Performance of RNTCP in Tamil Nadu

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SUMMARY

Directly Observed Treatment Short Course (DOTS) is a systematic strategy with five key components viz. Political and administrative commitment, good quality diagnosis, good quality drugs, the right treatment given in the right way and systematic monitoring and accountability. Comparing its achievements with the expectations assesses the efficiency of the programme, which is in turn obtained from the periodic reports. In this article, the performance of RNTCP in Tamil Nadu state during 2001-04 has been evaluated on the key parameters such as case finding, smear negative to smear positive ratio, sputum conversion and treatment success rate. The case detection rate in the state has been consistently increasing. The ratio of smear negative to smear positive was within the expected range of 0.4 to 1.2. Sputum conversion rate and treatment success rates were as per the expected norms.

KEYWORDS: Tuberculosis, RNTCP, DOTS, NSP

INTRODUCTION

Tuberculosis has got high priority within the health sectors as it is a major public health problem. TB Kills more adults in India than HIV, STD, Malaria, Leprosy and tropical diseases combined1. Every year, 30,000 children are forced to leave school because their parents have tuberculosis, and 100,000 women lose their status as mother and wives because of the social stigma. The National TB Programme (NTP) started in 1962, could not achieve the desired epidemiological impact, since its performance in terms of case finding and treatment success were below expectation2. In 1992, the Government of India, together with the World Health Organization (WHO) and Swedish International Development Agency (SIDA), reviewed the national programme and concluded that it suffered from managerial weakness, inadequate funding, over-reliance on x-ray, non-standard treatment regimens, low rates of treatment completion and lack of systematic information on treatment outcomes. As a result, a Revised National Tuberculosis Control Programme (RNTCP) was designed adopting DOTS, a comprehensive strategy for TB control. To date, 148 countries are implementing the DOTS strategy. India has tested and adapted DOTS in various parts of the country since 1993, with excellent results, and the RNTCP now covers more than 1 billion population in over 564 districts in 29 states and 7 union territories3.

In the present article a cohort-wise analysis is attempted to assess the performance of RNTCP in Tamil Nadu State, which was fully covered under RNTCP by December 2001. The performance is evaluated on the key parameters/indicators such as case detection rate, smear conversion rate, patients put on treatment and treatment success rate.

Geographically, Tamil Nadu (TN) is located in the southern part of India and having borders with the states of Karnataka, Kerala, Andhra Pradesh and Pondicherry. Tamil Nadu is the only state that touches all the three oceans viz; Arabian Sea, Indian Ocean and Bay of Bengal.

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Its entire eastern side is covered by Bay of Bengal. It has an area of 130,058 sq. km and total population of 62.4 million as per Census of India 2001. The State has a population density of 478 per sq. km, sex ratio of 986 (females per 1000 males) and literacy rate of 73.47% as per census 2001.

METHODOLOGY:

A standardized set of performance indicators / parameters have been identified to monitor RNTCP. These indicators help the programme managers at various levels in assessing the performance of the programme for corrective action. For the purpose of assessing the progress of RNTCP in Tamil Nadu, the quarterly performance reports published by the Central TB Division from 2001 to 2004 were used. These quarterly reports on case finding, sputum conversion, treatment outcome, programme management and logistics are used as important tools to assess the performance of the programme. The methodology for collecting data and reporting are uniform as devised by the Central TB Division. The performance of Tamil Nadu has also been compared with all India performance of RNTCP.

RESULTS

For the State of Tamil Nadu, the ratio of the number of new smear negative to new smear positive cases varied in different quarters from 0.8 to 1.1 whereas for all-India, the ratio was in the range 0.7 to 0.9 (Fig.1). The case detection rate of new sputum smear positive cases for Tamil Nadu was 63% on an average during 2001-04. However with the expected incidence of NSP cases being revised to 75 per lakh population, the state has improved its performance in terms of case detection. It was 80-85% during 2004 (Fig.2). The State had also attained consistently satisfactory sputum conversion rates (Fig 3). The state as a whole has achieved the treatment success rate of more than 85% from the year 2002 onwards. (Fig.4).

DISCUSSION

The RNTCP has set certain expected levels of performance against which the calculated performance indicators are compared. There should ideally, be a one to one relationship between the number of new smear positive cases and new smear negative cases. The detection of smear –ve cases also needs improvement for effecting control of TB in the community. This ratio should however be never higher than 1:1.2. From Fig 1, it can be seen that for the state of Tamil Nadu, the ratio lies within the range of 0.8 to 1.1 for all the quarters during 2001-04, which is as per expectation.

Case detection rate indicates the extent to which patients with pulmonary smear positive tuberculosis are being treated by the public health system. The estimated incidence rate used in the programme planning is 75 NSP per lakh of population for Tamil Nadu state and also for all-India level, of whom at least 70% are expected to be detected in the Government health facilities. From Fig 2, it can be observed that with respect to case detection rate, Tamil Nadu is doing well. The case detection rate has been consistently increasing - both Tamil Nadu and all-India.

New smear positive cases and relapses should have at least 90% conversion from sputum positive to negative at the end of intensive phase of treatment. A high conversion rate is usually followed by high cure rate. From Fig 3, it can be seen that for each cohort of NSPs detected in the different quarters in 2001-04, the smear conversion rate has been excellent and is around 90% for almost all the quarters.

Outcome indicators such as cure, completion, default, failure, death and transfer rates are crucial for assessing the performance
of the programme. The cure/success rate achieved for new pulmonary smear-positive cases treated under DOTS is the most important indicator of effectiveness of chemotherapy in treating TB cases and hence success of the programme. Tamil Nadu has achieved excellent success rates of about 86% for most of the cohorts of NSPs detected during 2001-04.

To improve the reach of the Programme, Tamil Nadu has conducted IEC activities such as street plays. Resources Group of Educational Advocacy for community Health (REACH) in Chennai has taken up a project with the aim to bring 50-60% private practitioners and private hospitals into the RNTCP in a phased manner.

To sustain the performance and break the transmission of TB, it is necessary for the state to address the issues of MDR-TB, TB-HIV coordination activities, intensifying the IEC activities, building and strengthening partnerships with all major health providers and conducting operations research on continuous basis to improve the quality and reach of the programme. The high quality of care and strict adherence to the RNTCP guidelines should be continued and maintained to sustain the smear conversion and success rates already achieved by the State under the programme.

References:


Fig. 1 - Cohort Analysis-Tamil Nadu & All India
Ratio of Smear –ve to Smear +ve Pulmonary TB cases

Fig. 2 - Cohort Analysis-Tamil Nadu & All India
Annualised NSP Detection rate 2001-2004