

# A Comparative Study Between Dots & Non-Dots Patients In Two Districts Of Haryana, India

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## Abstract

Tuberculosis (TB) is major public health problem in India & among the top killer diseases. It infects one third of the world's population at any point of time. There are approximately 9 million new cases of all forms of Tuberculosis occurring annually & 3 million people die from it each year. India accounts for 28% of the global T.B. burden. Every year, approximately 1.8 million persons develop Tuberculosis of which about 0.8 million are new smear positive highly infectious cases & about 4.17 lakh people die of TB every year, one person dies every minute & 1000 die every day . The emergence of multi-drug resistant TB (MDR TB) and the spread of HIV/AIDS are contributing to the worsening impact of the disease - the principal reasons for the WHO declaring TB a global emergency in 1993<sup>2</sup>. Directly-observed treatment short-course (DOTS) is based on scientifically sound technology and direct observation of drug intake of the patient by treatment observers, thus obviating the drug default problem<sup>3</sup>. It was introduced on a pilot-basis in India in 1993, and large scale expansion began in 1998. By year 2005 entire country was covered by the programme.

## INTRODUCTION

Tuberculosis (TB) is major public health problem in India & among the top killer diseases. It infects one third of the world's population at any point of time. There are approximately 9 million new cases of all forms of Tuberculosis occurring annually & 3 million people die from it each year. India accounts for 28% of the global T.B. burden. Every year, approximately 1.8 million persons develop Tuberculosis of which about 0.8 million are new smear positive highly infectious cases & about 4.17 lakh people die of TB every year, one person dies every minute & 1000 die every day . The emergence of multi-drug resistant TB (MDR TB) and the spread of HIV/AIDS are contributing to the worsening impact of the disease - the principal reasons for the WHO declaring TB a global emergency in 1993<sup>2</sup>.

Directly-observed treatment short-course (DOTS) is based on scientifically sound technology and direct observation of drug intake of the patient by treatment observers, thus obviating the drug default problem<sup>3</sup>. It was introduced on a pilot-basis in India in 1993, and large scale expansion began in 1998. By year 2005 entire country was covered by the programme.

## MATERIAL AND METHODS

The present study was done in Districts Rohtak and Sonapat.

The study was record based. Out of total new sputum positive cases registered in both District Tuberculosis Centres (DTCs) from Jan- June 2003, 386 patients ( 188 patients from District Sonapat and 198 patients from Rohtak District) were selected in the age group of 21-60 years by purposive random sampling. All patients of District Tuberculosis Centre Sonapat were taking Directly Observed Therapy Short Course (DOTS) under Revised National Tuberculosis Control Programme ( RNTCP) for six months while the patients of District Tuberculosis Centre Rohtak were taking Non-DOTS treatment because before 2003 Revised National Tuberculosis Control Programme was not started in Rohtak The data of both DTCs were collected, complied, analyzed and subjected to suitable statistical tests.

## RESULTS

**Figure 1**

Table I :Age and sex wise distribution of DOTS and non-DOTS groups in study subjects.

Age in years	DOTS group			Non-DOTS group		
	M	F	Total	M	F	Total
21-30	29	16	45	30	22	52
31-40	40	22	62	48	21	69
41-50	26	16	42	23	16	39
51-60	21	18	39	22	16	38
<b>TOTAL</b>	<b>116</b>	<b>72</b>	<b>188</b>	<b>123</b>	<b>75</b>	<b>198</b>

Tables I shows the age and sex distribution of DOTS and non-DOTS groups in the study. Out of total patients maximum Tuberculosis occurred in adult age groups while sex wise maximum occurred in males.

**Figure 2**

Table II Treatment outcome for DOTS group and non-DOTS group in study subjects

	DOTS group	Non-DOTS group
Treatment initiated (n)	188	198
Number cured	171	67
Cure rate (%)	91.3%	34.0%
Defaulters	11	100
Defaulter rate	6.2%	51.0%
Total failures	6	27
Failures rate	3.5%	13.5%
Total deaths	0	3
Death rate	0.0%	1.5%
Sputum detection rate	63.0%	26.5%

p <.001; highly significant.

Table II shows, 91.3% of the DOTS group and 34.0% of the non-DOTS group were observed to be smear-negative after 6 months of chemotherapy. In this study defaulter rate, failure rate & death rate were maximum occurred in Non- DOTS groups as compared to DOTS groups The difference in the outcome was observed to be statistically highly significant. The present findings confirm that DOTS is a significantly superior health intervention compared to self-administered regimen in the prognosis of tuberculosis patients.

## DISCUSSION

Difference in the outcome between DOTS and NON-DOTS group was observed in this study was 57.3%. Similar difference was observed by Murali madhav et al, a study was conducted in Manglore city<sup>4</sup>.

Defaulter rate, Failure rate & Death rate in this study was come out to be 6.2% ,3.5% & 0.0% which is similar to finding of status report 2001, Govt. of India, RNTCP (Revised National TB Control Programme).These all indicator achieved in this study because of regular & uninterrupted supply of drugs, treatment given under direct observation & follow-up were regularly to these patients<sup>1</sup>.

There should be more emphasis on community involvement in providing DOTS. Similarly for case finding also community should be involved so that prompt diagnosis & sustained treatment could be achieved. Getting motivated workers & maintaining their motivation for a long time without any socioeconomics& professional benefits to the workers is a difficult task in front of management. Health education with other measure like monetary incentives or peer adviser or remainder letters improve adherence even without supervision. Success stories of community based intervention from both within the country and other parts of world need to be replicated if the battle against the century old disease is to be truly won<sup>5</sup>.

Phased and effective implementation of the RNTCP is the best strategy and perhaps the only chance of controlling TB in India during this generation. Ensuring diagnosis and cure of TB cases by RNTCP policies is the only effective way to stop the spread of multi-drug resistant TB in India<sup>6</sup>.

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