

## SHORT ARTICLE

**A study on socio-demographic profile and feasibility of DOTS provider registered under RNTCP in Varanasi district Uttar Pradesh**Mohd. Afzalul Haque<sup>1</sup>, Dharendra Kumar<sup>2</sup>, Shaili Vyas<sup>3</sup><sup>1</sup>& <sup>3</sup>Assistant Professor, <sup>2</sup>Associate Professor, Department of Community Medicine SRMS, Institute of Medical Sciences, Bareilly, Uttar Pradesh[Abstract](#)[Introduction](#)[Methodology](#)[Results](#)[Conclusion](#)[References](#)[Citation](#)**Corresponding Author**

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**Citation**

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**Abstract**

**Introduction:** Tuberculosis is a major chronic disorder affecting the larger population more than any other disease in the country. DOTS was introduced in India in 1993 as part of the Revised National Tuberculosis Programme (RNTCP) following a review of India's National Tuberculosis Programme (NTP) a year earlier (1). Patient satisfaction is an important parameter for assessing the quality of patient care services. There is need to assess the health care provider regarding the consumer satisfaction as often as possible, this paper summarizes our experience about role of DOTS provider in the management of TB patient in rural population of Varanasi districts Uttar Pradesh. **Objective:** (1) To assess the perception of registered tuberculosis patients regarding DOTS provider for the treatment of tuberculosis. (2) To assess the accessibility, acceptability & availability of community DOTS provider. **Design:** A longitudinal study. **Setting:** Three microscopic centre of Chhapra Tuberculosis unit of Varanasi districts. **Methods:** Registered patients were interviewed twice: once in the beginning and another at the completion of the treatment or after the permanent discontinuation of the treatment. Patients were interviewed for their socio-demographic profiles, opinion about DOTS and its providers. Side effects experienced and action taken etc. Data was collected on a semi-structured, pre-tested questionnaire. DOTS providers were interviewed and treatment cards analyzed for any interruption of treatment and action taken. Data was collected from 1<sup>st</sup> June 2004 to 31<sup>st</sup> June 2005 till the completion of the regimen. **Results:** Majority of DOTS providers were young males (82.7%) of 26 years to 40 years, while the representation of females was only 5 (17.3%). Almost more than 80% of the patients started their treatment within 1-10 days. For majority of cases (83%) the distance of DOTS provider from patient's house was within 1 km. Mean time spent to go to DOTS provider was 27.2 minutes. 91.5% have no effect on routine activity. 98.3% DOTS provider were regular. Regarding behavior & availability of DOTS provider majority (90%) of patient's opinion was good & regular (98%). Among 117 patients who were enrolled for treatment through DOTS provider, 73 (92.4%) were NSP & 12 (10%) were from retreatment group. Out of 117 patients who opted for treatment from DOTS provider 108 patients took full course of treatment in Intensive phase & their success rate was (92%) out of 108 patients 103 took full course of treatment in Continuation phase & their success rate was (95%). Success rate among NSP was 89% & success rate among retreatment group was about 83%. **Conclusion:** Shopkeeper acts as a DOTS provider in RNTCP because of their accessibility. Availability being less time consuming and the place being convenient to the patients. Shopkeeper is an example of persons drawn from the community who can play complementary role as DOTS providers.

**Key Words**

Tuberculosis; RNTCP; DOTS; DOTS Provider; Shopkeeper

**Introduction**

Medical care organizations are mainly providing curative care. They should be cost effective & require highly motivated & responsible provider so that he can provide accessible, acceptable & affordable services to the community. In recent year quality assurance not

only in the form of material but also of behavior of health care provider has emerged international important aspect in the provision of health care services. Health care system depends upon availability affordability, efficiency, feasibility & other factor. Patient's satisfaction is recognized as an important parameter for assessing the quality of patient care

services, satisfaction regarding behavior of health care provider towards these services is expected to affect outcome & prognosis. There is a need to analyze the health care provider as often as possible.

DOTS centre is specific centre for TB patient. It is an alternative and practical method of delivering effective treatment to patient. It involves community participation in tuberculosis treatment delivery in which community volunteers, local leader; colleagues in the work place, shopkeeper, teachers and many others can be actively and usefully involved in offering ambulatory treatment at home. DOT has been implemented successfully in many countries using community based strategies utilizing trained lay persons to observed treatment (2). Today India DOTS program against tuberculosis is recognized as fastest expanding programmed launched in March 1997. It has covered whole country by 2006. It provide appropriate, affordable and accessible health care to TB suspects and cases, DOTS is a community based tuberculosis treatment & care strategy which combines the benefit of supervised treatment & benefit of community based care & support.

DOTS ensure high cure rate through its three component (1) appropriate medical treatment (2) supervision & motivation by health or non-health worker (3) monitoring of disease status by health services. DOTS are given by peripheral health staff such as multipurpose worker or through voluntary health worker, they are known as DOTS Agent or DOTS Provider.

## Aims & Objectives

(1) To assess the perception of registered tuberculosis patients regarding DOTS provider for the treatment of tuberculosis. (2) To assess the accessibility, acceptability & availability of community DOTS provider.

## Material and Methods

**Place of Study:** The study was conducted in Varanasi district, U.P. where RNTCP was launched in the beginning of 2003. Out of 5 TU in the district one was selected. Out of 5 microscopic centers in the selected TU, 3 microscopic centers were selected considering operational feasibility.

**Study subjects:** All the tuberculosis patients registered for DOTS therapy at the three selected Microscopic Centers.

**Period of study:** Data was collected from 1<sup>st</sup> June 2004 to 31<sup>th</sup> June 2005, till the completion of the regimen.

**Type of study:** It was a longitudinal study. DOTS providers followed-up at fortnightly intervals to know the status of patients. Registered patients were interviewed twice; once in the beginning and another at the completion of the treatment or after the permanent discontinuation of the treatment.

**Tools of the Study:** Patients were interviewed for their socio-demographic profiles, opinion about DOTS and its providers. Side effects experienced and action taken etc. Data was collected on a semi-structured, pre-tested questionnaire. DOTS providers were interviewed and Treatment cards analyzed for any interruption of treatment and action taken. 'Temporary default' was considered as interruption of treatment for more than a week during intensive phase and more than two weeks during continuation phase.

## Results

**Socio-demographic profile of patients:** Total 117 patients were studied. Number of male (64) exceeded that of female (53) patients. 70% patient's belonged to sexually active group & majority (55%) of them were illiterate. 83% patients came from rural area with the mean distance of 1 KM from DOTS centre spending average 27.2 minutes to go to DOT provider. Almost all female were housewives (n=51, 96.2%), 28.1% males were laborers, 25% patients were unemployed & more than 56.4% had monthly per capita income of less than 300 rupees. Majority (60%) got information about DOTS either from local practitioner or from respective microscopic centre.

**Socio-demographic profile of DOTS providers:** Out of 29 DOTS provider 24(82.7%) were male, while the representation of female was only 5(17.3%). Similar finding was observed by the Mohanarani Suhadev et al 2005 in which male DOTS provider exceeded the female provider. (3) Majority of DOTS providers were local physician (31%) followed by community leaders (24.1%) and paramedical workers (17.1%). None of the DOTS providers were illiterate. Participation of BAMS doctors were seen as DOTS providers. Unfortunately none of the allopathic doctor was DOTS provider. Majority of DOTS providers (68.9%) had taken the responsibility of being DOTS providers as social cause with the feeling that one should serve the patients.

**Acceptability of DOTS:** Out of 117 patients registered under RNTCP 79(67.5%) were treated under Cat-I, 12(10.2%) Cat-II & 26(22.2%) Cat-III. Of which 73(62.3%) were NSP & 12(10.2%) were retreatment group. Regarding treatment adherence 80% patients in all categories took full treatment by local DOTS providers. Similar finding were observed by the B.

Mahadev, et.al in which more than 80% patients took full treatment by the DOTS providers (4). In another study it was observed that a local DOTS provider was preferred due to financial benefit (no transport charge, no traveling time and no loss of wages), due to proximity and personal attention by the local DOTS providers (5). DOTS was highly appreciated by patients and advantage listed by the patients were; less time consuming (70%), work not effected (92%), personal attention for care of side effect (53.6%), regularity (98.3%) & good behavior (>90%) of DOTS providers. Cost- effectiveness was an important consideration in this community.

**Accessibility of DOTS:** Location of DOTS centre from the patient's house is an important factor influencing adherence of DOTS. In our study it was seen that majority (83%) got treatment within 1 KM and mean time spent was only 25 minutes.

**Problem during DOTS:** A small percentage of DOTS providers expressed problems related to drugs like side effect- nausea / vomiting (17.9%), jaundice (1.7%), headache (4.3%), feeling of hotness (3.4%), heartburn (2.6%), visible disturbance (9%), death (6.8%) due to late diagnosis, incorrect (6.8%) categorization, migration (<1%) & defaulted (4.2%) due to social stigma during DOTS therapy.

One of the interesting finding in our study was that 3 out of 14 patients who refused treatment from DOT provider attributed to the apprehension of disclosure of disease and social stigma as reason of not taking treatment from DOT providers.

## Discussion

Tuberculosis is more prevalent in male than in female. Problem of tuberculosis increases as age advances. The purpose of DOTS is to ensure patient adherence to treatment. Hence it is important to provide DOTS at a time and place that is convenient and acceptable to patients. Although participation of female in the programme was seen very less as only 17% of them were female this contradicts what has been observed in Orissa in which the majority (>80%) of the DOTS providers were females (6). The regional difference might be the cause as in the Uttar Pradesh the women participation in national programmes is less, may be due to sociocultural factor and the choice of personnel at the microscopic centre.

Anybody as a DOTS provider should be willing and should have necessary skill to make patients adhere to the treatment regimen. It was observed in our study that more than 30% DOTS provider were local physician which was further welcome sign because

they can also help to send the suspected tuberculosis patients for further evaluation and thus can increase the case finding. They can also manage the minor side effects like nausea and vomiting. The IEC activities should be emphasized with especial consideration to local practitioner as the patients become aware of the programme through them, as they usually are the first person to whom the patients get in touch with for their treatment. The success of TB control programme would be the result of multiple components (Health Education, Supportive Health System, Family support, etc) acting in concern to support and enable patients to complete the therapy (7).

ICDS functionaries like Anganwadi Worker who are very close to the community can be the best DOTS provider as she will be more accessible to the patients therefore the efforts should be made to involve the AWW in the programme.

Training of the DOTS provider is a must as they are the pillars for the success of DOTS programme. The importance of training is not only that they will be able to provide the drugs properly to the patients but will also a useful manpower to improve the awareness of the DOTS among the masses.

By interviewing the DOTS provider, it was observed that they too were concerned about community welfare and had a sense of commitment to the fellow human beings. They have shown certain degree of dedication and commitment and have also shown that they can be a potential DOTS providers in areas where the accessibility of health services is poor. Of the 117 patients 103 (88%) expressed their satisfaction at taking treatment from DOTS provider because of their easy accessibility, availability, saving of time and general convenience.

## Conclusion

Use of shopkeepers as DOT providers can deepen the extent of coverage. No major problems were encountered during the administration of treatment through DOT providers. As many patients expressed their difficulty to take treatment at the health centre because of the inconvenient timings, non- availability of government DOT centers nearer to their residence, unbearable travel cost and social stigma. The issue of social stigma needs to be further addressed; as it is an important factor as reported in a few other studies in India (8-9). These factors can be overcome by using DOT providers. During the study, the investigator did not come across any objection from the community for the DOT provider.

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