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Original Research Article

A study on performance evaluation, roles and challenges faced by the DOTS providers in treatment adherence of TB patients in Tumkur city an untouched area

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ABSTRACT

Background: Non-governmental personnel such as Anganwadi workers, Asha workers and community volunteers have been used as directly observed treatment (DOT) providers in the revised National Tuberculosis Control Programme (RNTCP), challenges faced by them were not addressed, which is important to improve their performance.

Methodology: A cross-sectional study conducted using semi structured questioner which contains Socio-demographic characteristics of the DOTS provider and the questions to evaluate the performance of DOTS provider, his role in treatment adherence and also the challenges faced by him/her. DOTS providers are traced by information obtained from DTC. Data will be entered and analysed in SPPSS version 16.0

Results: About 99% of DOTS providers have received training regarding TB and DOTS. About 70% believed that the reason of failure was due to incomplete treatment and 15% believed that the failure was due to incomplete treatment and failure of preventive measures. 98% of them trace the patients when they don't come to take DOTS. About 91.1% of them had no history of TB in their families and 7.9% of them had a history of TB in their family. About 53.5% of DOTS provider handled the drug reaction. About 38.6% of them were cured and declared sputum negative. About 94.1% of them had no defaulters and 4% of them had one defaulter under them. About 11.9% of them had one relapse. About 93.1% of them had no failures, 5% of them had one failure and 1% of them had 2 failures. About 95% of them used counseling as an aid to motivate patients.

Conclusion: Educating and creating awareness regarding disease and its prevention plays a major role in reducing the burden if disease, addressing the barriers and difficulties of dots provider helps them to give better service and care to patients.

1. Introduction

The necessity of directly observed treatment (DOT) for tuberculosis control was first demonstrated in India.[1] DOT is now recommended as the standard of care in treatment of tuberculosis worldwide.[2,3] By ensuring that patients take the right drugs, at the right intervals and in the right dosages, DOT reduces the chances of relapse or failure and prevents multi-drug resistant tuberculosis.[4–6]

Since 1962 various forms of modalities were structured and implemented but disease itself poses new challenges and modified threats to public health of India.

Latest version of challenges in TB is in the form of MDR and XDR.

Many literature claims MDR and XDR are manmade TB, mainly because of failure to adhere to the treatment of primary TB. In order to prevent the newer threat, important

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strategy used in RNTCP in India is DOTS, where designated worker/ volunteers called DOTS provider plays anchoring role in adhering to TB treatment.

With this background the investigators would like to conduct research with the objectives of evaluating the performance of DOTS provider, assessing the role of DOTS provider in treatment adherence and the Challenges faced by the DOTS Provider in delivering DOTS.

2. Materials and Methods

After taking Informed consent a Cross-sectional study was done using semi structured questioner which contains Socio-demographic characteristics of the DOTS provider and the questions to evaluate the performance of DOTS provider, his role in treatment adherence and also the challenges faced by him/her. DOTS providers are traced by information obtained from DTC. Data will be collected using semi structured pretested questioner by interview technique.

Data was entered and analysed using SPPSS version 16.0.

2.1. Study settings

Tumkur district.

2.2. Study design

Cross- sectional study.

2.3. Study subjects

All the DOTS providers coming under Tumkur district.

2.4. Inclusion criteria

All the DOTS providers coming under Tumkur district.

2.5. Exclusion criteria

People who are not willing to participate in study.

2.6. Study period

6 months

2.7. Sampling technique

Purposive sampling.

2.8. Study tool

Data is collected using semi -structured pretested questioner to DOTS provider.

2.9. Sample size

All Dots provider coming under Tumkur Tuberculosis unit are included in the study

2.10. Statistical analysis

Descriptive statistics like mean and standard deviation will be calculated and analysed with sociodemographic variables, Inferential statistics, Test of significance like chi-square test and Modified Logistic Regression will be used.

2.11. Ethical committee clearance

Taken.

3. Objectives

1. To Evaluate the performance of DOTS provider.
2. To assess the role of DOTS provider in treatment adherence.
3. To assess the Challenges faced by the DOTS Provider in delivering DOTS.

4. Results

Most of the Dots Provider were Asha Worker, out of which 60% of them became DOTS providers in order to provide social service.

Around 99% of DOTS providers have received training regarding TB and DOTS. Out of which 59.9% of them felt that the training they received was adequate and rest felt that it was inadequate. 81.2% of them were able to answer all queries of TB patients and 11.9% of them were able to answer some of the queries and 2% were not able to answer the queries at all.

95% of them believed that taking DOTS will completely cure TB, 70% believed that the reason of failure was due to incomplete treatment and 15% believed that the failure was due to incomplete treatment and failure of preventive measures about 7% percent believed the failure was due to failure of preventive measure and others believed that the disease is incurable and due to lack of knowledge.

98% of them trace the patients when they don't come to take DOTS. 91.1% of them had no history of TB in their families and 7.9% of them had a history of TB in their family. Around 53.5% of DOTS provider handled the drug reaction, around 28% of DOTS provider gave the responsibilities to their spouses when out of station, around 77.2% of them think that honorarium provided for the work is satisfactory. About 95% of them were aware of protecting themselves from infection. Around 80.2% of them had no MDR TB patients under them, about 10.9% had one MDR TB patient, around 38.6% of them were cured and declared sputum negative. Most of them 94.1% of them had no defaulters and 4% of them had one defaulter under them. 11.9% of them had one relapse, around 93.1% of them had

no failures, 5% of them had one failure and 1% of them had 2 failures, around 95% of them used counseling as an aid to motivate patients.

Table 1: Distribution study subjects based on socio-demographic characteristics

Socio-Demographic Characteristics	Frequency	Percent (%)
Age in Yrs		
23-33	31	30.7
34-44	61	60.4
45&>	8	7.9
Gender		
Female	99	98.0
Male	1	1.0
Education		
High School	68	67.3
PUC	30	29.7
Degree	2	2.0
Occupation		
Asha	99	98.0
Health Assistant	1	1.0
Total	100	100

Table 2: Distribution study subjects based on reason for becoming DOTS provider

Reason	Frequency	Percent
Monitory Benefits	1	1
Patients Convenience	36	36
Advice of Higher Authority	1	1
Social Service	63	63
Total	100	100

Table 3: Distribution of study subjects based on training received

Training Received	Frequency	Percent
Yes	95	95
No	5	5
Training Adequate or not		
Don't Know	5	5.0
Yes	60	59.4
No	35	34.7
Total	100	100

Table 4: Distribution study subjects based on knowledge

Determinants	Frequency	Percent
Ability to answer queries		
All	4	4.0
Most of them	82	81.2
Some	12	11.9
None	2	2.0
Belief of taking DOTS will completely cure TB		
Yes	96	95.0
No	4	4.0
Reasons for failure		
Incomplete treatment	70	70.0
Incomplete treatment & Disease is incurable	1	1.0
Incomplete treatment & Lack of knowledge	2	2.0
Incomplete treatment & Lack of knowledge & Others	2	2.0
Incomplete treatment & Failure of preventive measures	15	15.0
Incomplete treatment & Others	1	1.0
Disease is incurable	2	2.0
Failure of preventive measures	7	7.0
Self-Protection needed or not		
Yes	96	95.0
No	4	4.0
Knowledge about self –protection		
None	4	4.0
Using mask	72	72.0
Using mask & avoid talking to them	1	1.0
Avoid talking to them	2	2.0
Others	21	21.0
Total	100	100

5. Discussion

High treatment success rates can be achieved by identifying DOT providers, who are accessible and acceptable to patients.

In our study around 38.6% of them were cured and declared sputum negative. Most of them 94.1% of them had no defaulters and 4% of them had one defaulter under them. 11.9% of them had one relapse, around 93.1% of them had no failures, 5% of them had one failure.

A Study done in Africa, volunteers and community health workers successfully delivered community-based DOT and were able to maintain higher treatment completion rates than the health worker in a clinic.[7]

Decentralized approach using a network of community-based DOT providers can take DOTs delivery closer to patients' homes, training and supervision of community-based DOT providers may not be optimal in the RNTCP as currently implemented.

Medical officers in charge of PHCs monitor activities of the governmental staff through weekly review meetings. However, periodic supervision of Anganwadi workers and community volunteers is infrequent. To increase the accountability of community-based DOT providers, it is necessary to develop and test mechanisms for supervising these providers.

Poor treatment outcomes will be no more common among patients who reports drug related problems than among those who do not. Patients treated by Anganwadi workers and community volunteers, however, were more

Table 5: Distribution study subjects based on the experience and problems facing as a dots provider

Determinants	Frequency	Percent
Tracing the patients		
Yes	99	98.0
No	1	1.0
Ability to handle drug reaction		
Yes	54	53.5
No	46	45.5
Familial Status		
Yes	8	7.9
No	92	91.1
Support from family		
Yes	99	98.0
No	1	1.0
Neighborhood developed any Stigma		
Yes	8	7.9
No	92	91.1
Hide the fact that you are dots provider		
Yes	9	8.9
No	91	90.1
Honorarium Provided is satisfactory		
Yes	44	44
No	56	56
Problems facing	Frequency	Percent
Irregularity of patients	14	14.0
Lack of interest	77	77.0
Lack of time & Distance	1	1.0
Distance	4	4.0
Distance & Others	1	1.0
Others	3	3.0
Reasons for quitting the Job		
Not quitting	85	85.0
Concern towards his health	3	3.0
Dissatisfaction of job	4	4.0
Dissatisfaction of job & Others	3	3.0
Others	5	5.0
Total	100	100

likely to report drug related problems than those receiving treatment from government providers.

Government DOT providers are skilled in tackling patients' drug related complaints, whereas Anganwadi workers and community volunteers have minimal training in health related issues. Therefore, the training of Anganwadi workers and community volunteers should include a strong component, on how to counsel patients who have drug related problems. Anganwadi workers and community volunteers may also be trained to dispense minor drugs such as antacids, analgesics and antihistamines.

Volunteer health workers have been successfully trained to dispense similar drugs in primary health care programmes in India and elsewhere.[8,9]

Appropriate utilization of DOTS provider, Educating them regarding the disease and drug reaction and motivating

Table 6: Distribution study subjects based on performance of dots provider

Determinants	Frequency	Percent
Total Number of TB patients{Current and Old}		
0	9	8.9
1	15	14.9
2	22	21.8
3	15	14.9
4	11	10.9
5	12	11.9
6	11	10.9
7	3	3.0
10	1	1.0
15	1	1.0
Number of MDR TB patients		
0	81	80.2
1	11	10.9
2	5	5.0
3	1	1.0
4	2	2.0
No. of Patients Cured and Declared Sputum Negative :-		
0	14	13.9
1	17	16.8
2	39	38.6
3	11	10.9
4	5	5.0
5	7	6.9
6	4	4.0
7	1	1.0
10	1	1.0
14	1	1.0
Number of Defaulters		
0	95	94.1
1	4	4.0
2	1	1.0
Number of Relapse		
0	88	87.1
1	12	11.9
Number of Failure		
0	94	93.1
1	5	5.0
Total	100	100

Table 7: Distribution study subjects based on use of aids to motivate patients

Use of Aids	Frequency	Percent
Charts & Counseling	5	5.0
Counseling	95	95.0
None	1	1.0
Total	101	100.0

them to provide service helps to improve treatment success rate and success of TB programme.

6. Conclusion

All though most of DOTS provider received training, still they found difficulties in managing the patient, appropriate strategies to be developed to handle the difficulties in delivering the programme need to be framed.

7. Recommendation

The importance of participating in directly observed treatment should be effectively communicated

to patients as well as DOT providers, especially during Pandemic period, as patients and DOTS Providers will be anxious and scared to visit the hospital.

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