

Research Article

A Study to Assess the Knowledge on DOTS, Utilization of DOTS Therapy and Its Compliance among Tuberculosis Patients in Selected Primary Health Centers, Bangalore Urban District

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Abstract: **Introduction:** Communicable diseases are the major public health problems in India. These are the deadly diseases, which affect the common population today. Tuberculosis is also one of the major communicable disease and chronic condition, it requires continuous medical care. The environment and socio-economic risk associated with this condition are severe in developing countries like India. **Objectives:** 1) To assess the knowledge on DOTS among tuberculosis patients. 2) To assess the utilization of DOTS among tuberculosis patients. 3) To assess the compliance of DOTS therapy among tuberculosis patients. 4) To find out the association between the levels of knowledge on DOTS with selected demographic variables. **Methodology:** Non-experimental descriptive survey research design was adopted for the present study. Sample included 60 tuberculosis patients recruited by non-probability purposive sampling method. Structured interview schedule was used for collection of data. **Results:** The findings showed that 23.3% of the patients had inadequate knowledge as compared to 48.4% respondents with moderate knowledge level and 28.3% respondents with adequate knowledge regarding DOTS therapy, its utilization and compliance. **Conclusion:** Nearly 50% of samples were having Moderate knowledge regarding DOTS Therapy, its utilization and Compliance.

Keywords: Knowledge, Tuberculosis, DOTS, Utilization, Compliance.

Introduction

There is a killer that snuffs out the life of two Indians every three minutes and the killer is tuberculosis (TB)¹. Tuberculosis is also one of the major communicable disease and chronic condition, it requires continuous medical care. The environment and socio-economic risk associated with this condition are severe in developing countries like India. Unawareness, poverty, under nutrition, poor housing, large family, and occupation has a measure influencing on disease prevalence. The suffering due to pulmonary tuberculosis is increasing despite excellent treatment available².

Tuberculosis is a worldwide public health problem despite the fact that the causative organism was discovered more than 100 years ago, and highly effective drugs and vaccine are available making tuberculosis a preventable and curable disease. Despite the fact that TB is a treatable disease, it has assumed epidemic proportions in India³. Tuberculosis is the second most important cause of adult death worldwide due to infectious disease, after HIV/AIDS⁴. Roughly 13.2 million (new and old

cases), new cases 9.2 million every year is affected globally. About one-third of the world's population is infected with tuberculosis (TB)¹. Approximately one in every 10 of these people will develop TB disease, which typically consists of a chronic cough, severe weight loss, night sweats and progressive, irreversible lung damage⁵.

Tuberculosis is one of the primary causes of mortality in India, its spread can, however, be checked by early detection and regular follow-up of patients. India is one of the 22 high-burden countries. One-fifth of the world's TB cases are in India⁶.

Need for the tuberculosis eradication is been Addressed by Prime Minister Narendra Modi at "End TB Summit" organized on 13 March 2018, at Vigyan Bhawan, New Delhi. Tuberculosis-TB was declared Emergency by the World Health Organization nearly 25 years ago. Since then, various efforts have been made to prevent TB in different countries. Given the way TB affects people's lives, impacts on country's economy and country's future, it is now very necessary to get rid of TB within the stipulated time. In India, TB has the highest impact of any communicable disease. To eliminate TB across the world, it has been decided the year by which it should happen is 2030^{7,9}. In 1993 WHO, declared tuberculosis as a global emergency and promoted Dr. Styblo's strategy in a technical and management package known by the brand name DOTS (directly observed treatment short course)^{8,10}. The current scenario of TB treatment is dismal indeed. In spite of a government run control program that has lasted for decades, the number of patients is increasing every year. A very big problem is the lack of accessibility of DOTS therapy.

Objectives

- 1) To assess the knowledge on DOTS among tuberculosis patients.
- 2) To assess the utilization of DOTS among tuberculosis patients.
- 3) To assess the compliance of DOTS therapy among tuberculosis patients.
- 4) To find out the association between the levels of knowledge on DOTS with selected demographic variables.

Methodology

Non-experimental descriptive survey research design was adopted for the present study. Sample of 60 tuberculosis patients aged between 15 to 70 years residing at Vibhuthipura, Kengeri, Kengeri Upanagara and Nayandahalli PHCs, Bangalore, were recruited by non-probability purposive sampling method. Research proposal was approved by Institutional Ethical committee. Prior permission was taken from District Health Officer. Informed written consent was taken from each selected sample. Data was collected by making house to house visits and interviewing tuberculosis patients by using the structured interview schedule. The study was conducted according to the convenience and choice of patients.

Tool consisted of two parts; part I consists of baseline data of patients includes age, gender, educational status, occupation, income, type of family, family history of tuberculosis, duration of illness and source of information.

Part II consists of 3 sections.

Section A-Consists of 33 items regarding knowledge on causes, risk factors, mode of transmission, clinical manifestations, diagnosis, prevention and treatment of tuberculosis.

Section B-Consists of 8 items on utilization of DOTS therapy.

Section C-Consists of 7 items on compliance of DOTS therapy.

Results

Section-I: Description of Socio demographic data of Tuberculosis patients

The result shows that 51.7% of patients were in the age group of 15-29 years, majority (66.7%) were males, 61.7% of patients had formal education, 48.3% of participants were Coolie workers,

agriculture was the occupation for 33.3% of respondents, 43.3% of participants had the monthly income of below Rs. 2000/-, majority (71.7%) of participants were living in nuclear family. Majority (78.3%) of participants do not have a family history of Tuberculosis and only 21.7% of participants had a family history of tuberculosis and 80% of participants had the duration of illness less than 6 months and 85% of participants gained knowledge about DOTS Therapy from Health Personnel.

Section-II: Findings Related to knowledge score regarding DOTS therapy, its Utilization and compliance among respondents

Table 1. Aspect wise distribution of mean knowledge scores on DOTS, Its utilization and Compliance.

No	Aspects	Max score	Range score	Knowledge Score		
				Mean	Mean (%)	SD (%)
I	Causes, risk factors and mode of transmission	8	0-8	4.70	58.75	2.24
II	Clinical manifestation and diagnosis	6	1-6	4.23	70.5	1.30
III	Prevention and treatment	19	4-15	9.80	51.57	3.68
IV	Utilization of DOTS therapy	8	3-8	6.16	77	1.48
V	Compliance of DOTS therapy	7	1-7	4.33	61.85	1.65
	Combined	48		29.22	60.87	10.35

Description of findings related to level of knowledge

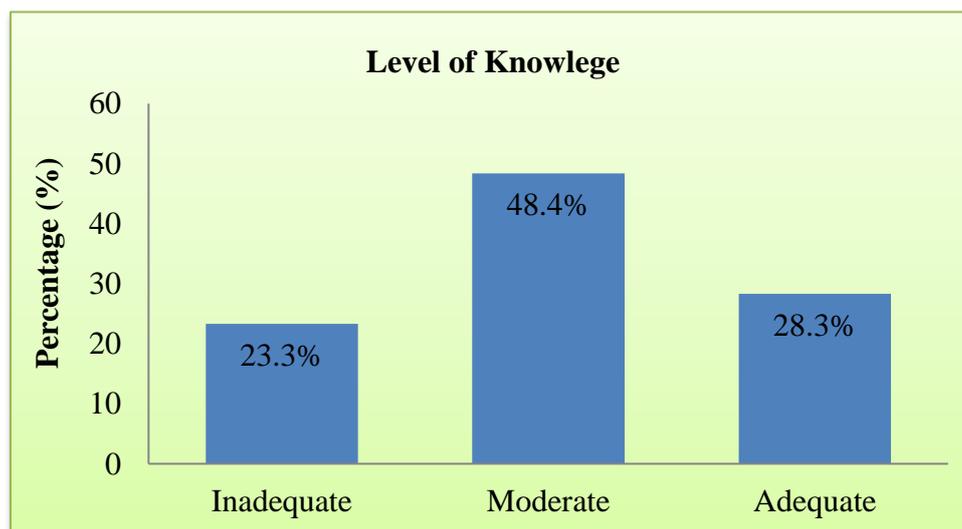


Figure 1. Frequency and Percentage distribution of respondents according to level of Knowledge regarding DOTS therapy its utilization and compliance

The results indicate that 14(23.3%) of the patients had inadequate knowledge level as compared to 29(48.4%) respondents with moderate knowledge level and 17(28.3%) respondents with adequate knowledge regarding DOTS therapy, its utilization and compliance.

Section-III: Findings Related to Association between the levels of knowledge with Selected Demographic Variables

Chi-square test value established at 0.05 level of significance for finding out the association of knowledge score on DOTS therapy, its utilization and compliance with selected demographic

characteristics. The analysis revealed that Age, Educational status, Occupation and Income are statistically significant with knowledge score of respondents at 5% level.

Discussion

The findings of the study have been discussed with reference to the objectives and hypothesis stated and findings of the other studies.

Demographic characteristics of respondents

The result indicate that 51.7% of respondents were in the age group of 15-29 years followed by 28.3% in the age group of 30-44 years, 13.3% in the age group of 45-59 and 6.7% in the age group of 60 years and above. The above findings are supported by RNTCP status report which revealed that, tuberculosis is more prevalent in adults than in children in India. It affects adults in the most productive age group (15-54 years). More than 80% of respondents are in this age group as mentioned in the table 2.

Table 2. Prevalence of tuberculosis according to Age

Age in years	Percentage
0-14	2.0
15-24	20.9
25-34	22.50
35-44	20.32
45-54	16.32
55-64	11.24
65+	6.63

In relation to gender, majority (66.7%) of respondents were found to be males as compared to females (33.3%) in the study group. The above findings are supported by a study conducted by Dandona et al. on utilization of RNTCP services in rural areas of Bellary district. The proportion of sputum positive diagnosis was lower in women than men¹¹. Similarly the above findings are supported by a final report of central TB division on the baseline study on accessibility and utilization of RNTCP services revealed that the sample contained a higher percentage of males than female¹².

Aspect wise and overall knowledge level of respondents

The overall mean knowledge score was found to be 60.87% with SD as 10.35%. The mean knowledge score was found to be higher 77% in the aspect of utilization of DOTS therapy, followed by 70.5% in clinical manifestation and diagnosis, 61.85% in the compliance of DOTS therapy and 58.75% in causes, risk factors and mode of transmission. Further, the less knowledge score (51.57%) was found in the area of prevention and treatment. A similar findings are found in a study conducted by Bhats et al. on knowledge, attitude and practices of newly diagnosed sputum positive cases of pulmonary tuberculosis. A study involving 212 newly diagnosed sputum positive clients aged 15yrs and above, revealed that only 9% of the clients knew correctly the cause of pulmonary tuberculosis. Knowledge about mode of transmission of the disease was not known to 49% of the client. Awareness was high as 70% but utility of sputum examination was known to only 29% of the clients. Awareness of harmful sequel of inadequate and incomplete treatment was as high as 93% but knowledge of adequate duration of treatment was poor in a half of the subjects¹³.

Conclusion

There is enough evidence that pulmonary tuberculosis TB remains one of the world's deadliest infectious killers. Each day, nearly 4000 lose their lives to TB and close to 28,000 people fall ill. The present study concluded that nearly half of samples were having Moderate knowledge and 23.3% of

samples had inadequate knowledge regarding DOTS Therapy, its utilization and Compliance. Based on the findings researcher developed information booklet on DOTS Therapy, its utilization and Compliance.

Conflicts of interest: There is no conflict of interest of any kind.

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