

## Assessment of Knowledge, Attitude and Practice Towards Tb Disease and Dots Therapy

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### ABSTRACT

**Background:** Tuberculosis is a contagious infection that usually attacks lungs that can also spread to other parts of body like brain, spine. Tuberculosis is caused by bacteria Mycobacterium tuberculosis that spread through air, just like cold or the flu.

**Objective:** To assess Knowledge, attitude and practice towards TB disease and DOTS therapy in TB patients. **Methods:** A prospective observational study was conducted for a period of six months from April 2021 to September 2021 in Navodaya Medical College, Hospital & Research Centre (NMCH&RC) Raichur, with a sample size of 84. The data was collected from all the tuberculosis patient's admitted in the hospital from questionnaire form with regard to Knowledge, attitude and practice of TB patients towards TB disease and DOTS therapy. Then all this data was analyzed using Spearman's rho statistical test. **Result:** Complete responses from 84 TB patients were collected and used for data analyses. The study showed that 53.5% were females and 46.4% were males. Concerning the respondent's Knowledge about TB disease and DOTS therapy 49 (58.3%) had good level of Knowledge. Majority 69(82%) were strongly positive that TB infection can be cured. 84 (100%) were covering mouth and nose while coughing and sneezing. Regarding attitude, from a total of 84 responses, majority of them 94% have poor attitude. 64(76.1%) were afraid when they learnt they had TB infection. Majority of them 67 (79.8%) have fair and good level of practice of preventive measures such as taking drugs regularly 39 (46.4%), going for checkup 22 (26.1%). Majority of them (70.2%) were never experienced about DOTS service. **Conclusion:** The study showed adequate level of knowledge, unacceptable attitude and good practice towards TB disease and DOTS therapy.

**KEYWORDS:** Attitude, Knowledge, Tuberculosis, DOTS therapy, practice

### I. INTRODUCTION

Tuberculosis is a contagious infection that usually attacks lungs that can also spread to other parts of body like brain, spine. Tuberculosis is caused by bacteria Mycobacterium tuberculosis that spread through air, just like cold or the flu. Tuberculosis was a leading cause of death in the world. Tuberculosis is considered as a social disease, with many socio-cultural factors contributing to disease burden. Tuberculosis has consistently shown a much higher annual mortality rate than HIV or any other infection<sup>[1]</sup> According to the World Health Organization (WHO), TB infected 10.4 million people and caused an estimated 1.45 million deaths (including both in HIV negative and positive patients) in 2018. Globally, TB illness developed in an estimated 10 million persons in 2019, representing a decline in incidence of 2.3% from 2018 and 9% since 2015<sup>[2]</sup>

Despite the implementation of an internationally recommended strategy (DOT) in almost all parts of WHO regions and many international efforts exerted against TB prevention and control, still the patients fail to complete their treatment to be declared "cured" or "completed the treatment". The adoption of DOT has been associated with reduced rate of treatment failure, relapse and drug resistance. However its impact on reducing TB incidence has been limited by noncompliance to DOT. Current WHO reports show that a considerable number of TB cases failed after several treatments; many relapsed after completion of the treatment, many had to undergo retreatment after completion of treatment and many developed MDR-TB among retreatment cases throughout the world.<sup>[3]</sup>

The current study focusses on the Knowledge, attitude and practices of TB patients towards TB disease, DOTS therapy. The study also helps to identify the risk factors for TB disease and latent TB infection among household contacts. The study also helps to understand awareness of population towards TB. It also establishes the

association between the Knowledge, attitude and practices of the study participants towards TB disease and DOTS therapy.

## II. MATERIAL AND METHODS

The KAP questionnaire was developed based on study objective. The instrument tries to explore questions about Knowledge, attitude and Practices of TB diagnosed patients towards TB infection, DOTS therapy. A total of 84 cases were collected, observed and recorded. Further the data obtained was subjected to analysis using different tools. The data on the demographics status was tallied using excel sheets and this data was later used in preparing the necessary graphs and tables. The extent of Knowledge, attitude and practices was compared and related with socio-demographic characteristics. Other data collected was used to establish the relation between different factors under the considerations of TB practices. The Knowledge part of the TB questionnaire have 11 questions (responses assigned 1 for correct and 0 for incorrect responses) the range is 1 to 11 (correct responses options of 6 and above) are classified as

good Knowledge of TB. While correct responses of less than 6 were classified as poor Knowledge of TB. Attitude and perception of participants towards TB have total of 7 questions, poor attitude were classified as those correct responses that are less than 4, while good attitude were classified correct responses above 4. Practices regarding TB infection, evaluation were based on responses option opted by the participants on the 5 points questions. Correct responses options of less than 3 were classified as poor practices. While correct responses of 3 and above were categorized as good practices.

## III. STATISTICAL METHODS

Spearman's rho was used to analyze the strength and direction of the relationships between Knowledge, attitude and practice score. Categorical independent variables were socio-demographic characteristics and dependent variables were Knowledge, attitude and practices score categories, which were not normally distributed. Statistical significant was considered at P-values < or = 0.

## IV. RESULTS

Table 1: Socio-demographic characteristics

			Frequency	Percentage
1.1	Sex of participants	Male	39	46.40%
		Female	45	53.50%
1.2	How old are you?	18-39	20	23.90%
		40-59	35	41.60%
		60-79	18	21.40%
		80+	11	13%
1.3	What is your education?	Primary	18	21.40%
		Secondary	22	26.10%
		Diploma	0	0%
		Degree	0	0%
		none	44	52.30%
1.4	Occupation	Farming	28	33%
		Civil servant	0	0%
		Unemployment	37	44%
		Self -employment	19	22.60%
1.5	Marital Status	Married	54	64%
		Unmarried	30	35.70%
1.6	Residence	Rural	64	76.10%
		Urban	20	23.80%

1.7	Smoking	Yes	50	59.50%
		No	34	42.50%
1.8	Alcohol	Yes	48	57.10%
		No	36	42.80%

Table 1 shows that majority of them are females (53.5%) followed by males (46.4%), most of them were in the age group of 40 – 59 years i.e.,41.6% of the total participants followed by 23.9% of the participants in the age group of 18 – 39 years. Participants who belonged to 60-79 years and more than 80+ years were 21.4% and 13%. On

collecting the data of marital status of TB patients it was found that majority of them are married (64%) followed by unmarried (35.7%) Data collected from residential status shows that majority of participants belong to rural area(76.1%) followed by (23.8%) belong to urban area.

**Table 2: Respondent’s Knowledge towards TB disease and DOTS therapy (n=84)**

Respondent’s Knowledge towards TB disease and DOTS therapy	Characteristics	No. of participants	Percentage (%)
Is TB infection is a disease that can spread to another person?	YES	74	88%
	NO	10	12%
Can TB infection easily spread while coughing or sneezing?	YES	84	100%
	NO	0	0%
Stopping treatment can worsen disease spread?	YES	58	70%
	NO	26	30.9%
Is TB infection a very serious infection?	YES	26	30.9%
	NO	58	70%
Whether symptoms of cough last longer than 3 weeks?	YES	60	71.4%
	NO	24	28.5%
Can covering mouth and nose while coughing helps to prevent TB spread?	YES	84	100%
	NO	0	0%
Is TB infection curable?	YES	69	82%
	NO	15	17.8%
Do you know that TB symptoms include weight loss, chest pain, shortness of breath, ongoing fatigue?	YES	45	53.5%
	NO	39	46.4%
Do you know that DOTS is most effective way to stop the spread of TB ?	YES	44	52.3%
	NO	24	28.5%
	DON’T KNOW	16	19%
Do you know that DOTS include the treatment regimen of 6 to 9 months?	YES	14	19%
	NO	38	45.2%
	DON’T KNOW	32	38%
Do you know about services included in DOTS ?	YES	14	16%
	NO	40	45.2%
	DON’T KNOW	30	38%

**Table 2** represents the distribution of participants responses and percentages on knowledge towards TB disease and DOTS therapy. 74 (88%) believed that TB can spread to another person, 84 (100%) knew that TB infection can

easily spread while coughing or sneezing. 58(70%) answered that TB is not a serious infection. Majority 70(89%) are unaware about DOTS regimen.

**+Table 3: Respondent’s attitude towards TB disease and DOTS therapy (n=84)**

Respondent’s attitude towards TB disease and DOTS therapy	Characteristics	No. of participants	Percentage (%)
How do you feel at the time of diagnosis?	Fear sadness	64 20	76.1% 23.8%
Which statement is closer how you feel about people with TB disease?	I feel compassionate and feel desire to help them.	0	0%
	I was afraid of them because they infect me.	28	33.3%
	I have no particular feeling.	56	66.6%
In your community, how is the person who has TB, usually regarded or treated?	Most people rejects him/her.	20	26.1%
	Most people are friendly, but they still avoid him/her.	22	
	The community mostly supports and helps him/her.	40	
Do you think that DOTS service will be beneficial to you ?	YES	11	13.09%
	NO	24	28.5%
	DON’T KNOW	49	58.3%
Do you think that DOTS service will help you to complete the treatment?	YES	21	25%
	NO	18	21.4%
	DON’T KNOW	45	53.5%
Do you think that DOTS service will help you improve adherence?	YES	20	23.8%
	NO	24	28.5%
	DON’T KNOW	40	47.6%
Who would you like to talk about TB infection?	Doctor	25	29.7%
	Family member	40	47.6%
	Friends	12	14.2%
	None	7	8.3%

**Table 3** shows that 76.1% (64) were afraid when they learnt they had TB infection. Also 23.8% (20) participants felt sad and hopelessness with the news of the condition. 8.3% (7) of the participants that maintained that it is best for them to keep the condition and their perception to

themselves. 47.6% (40) of the participants responses were that most people in the community supports TB infected people. Also it was noted that 26.1% (22) of the participants' responses showed that though some community members appear friendly.

**Table 4. Respondent's practice towards TB disease and DOTS therapy (n=84)**

Respondent's practice towards TB disease and DOTS therapy	Characteristics	Frequency	Percentage (%)
Things to reduce TB progression	Regular taking of drugs as prescribed	39	46.4%
	Regular checkup	22	26.1%
	Ensure to eat healthy food	23	27.3%
Prevention of TB spread can be done by	Not spitting around	31	36.9%
	Using separate plates	35	41.6%
	Immunization	6	7.1%
	Improving hygiene	7	8.33%
	Disposing sputum	5	5.95%
Have you ever experienced DOTS service before?	YES	25	29.7%
	NO	59	70.2%
Are you satisfied with DOTS service?	YES	59	70.2%
	NO	25	29.7%
Are you frequently monitored by DOTS service?	YES	12	14.2%
	NO	72	85.7%

**Table 4** shows that practices by participants taking of drugs regularly and going for checkup 46.4%, (39), 26.1% (22), were among strong indication of their determination to recover. Other strong practices observed were not spitting indiscriminately 36.9% (31).

## V. DISCUSSION

The finding of present study revealed that by collecting the data on the literacy level of tuberculosis patients it was understood that most of the participants were illiterate i.e., 52.3% followed by 26.1% who were having secondary education form these it is evident that most of the tuberculosis patients were illiterate and due to lack of knowledge education on there are chances of TB transmission and non-compliance to treatment. Among 84 patients, 50 (59.5%) were smokers, 34 (42.5%) were non-smokers History of Cigarette smoking is considered as an important risk factor for the development of tuberculosis. Alcohol intake status of study participants showed that majority of participants were alcoholic (57.1%) followed by non-alcoholic (42.8%) Heavy consumption of alcohol was closely associated with higher rates of tuberculosis.

The participants responses on Whether TB infection can be cured were strongly positive 82% (69) of believed there is total cure for the

condition. This is very good because there is total cure for the condition and comply on treatment regime. participant's responses on the symptoms (53.5%), transmission (100%), all demonstrated fair level of understanding which equally empowers them to perceive the condition well and comply with treatment and other TB control measures. The general level of participant's Knowledge of TB infections showed that 58.3% (49) of the participant's had good level of Knowledge can be sure of having a good impact and breakthrough in the TB control program. The participant's gender socio-demographic category was statistically significant on spearman rho test with P-value of 0.005.

It was however observed that 29.7% (25) opted that they would discuss the condition with the doctor or other health worker, this is good because it will enable them get quicker medical assistance. 8.3% (7) of the participants maintained that it is best for them to keep the condition and their perception to themselves. This is not healthy because problem shared are half solved. None of the participant's 0% expresses that they have compassionate feeling and desire to help TB infected people. It is very helpful because sick people need support and love. majority of them (94%) have poor attitude towards TB disease and

DOTS therapy.

Other strong practices observed were not spitting indiscriminately 36.9% (31), Using separate plates to serve food to other family members 41.6% (35) and disposing sputum regularly 5.95% (5). These responses if effectively and efficiently carried out by these patients will go a long way in the prevention and control of TB infection. Majority of them 70.2% were never experienced about DOTS service. Majority of the participants 79.8% (67) have fair and good level of practice of preventive measures and treatment compliances. This will help them to recover fully and will not spread the disease easily.

## VI. CONCLUSION

The study revealed that The community generally has a positive attitude towards TB patients. However people show limited interest in seeking care from community health care workers. The participants have good level of knowledge and practice towards preventive measures and treatment compliances.

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## Conflicts of interests

The study declared that they have no conflict of interests.

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