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## Knowledge and behavior among tuberculosis patients of Dharwad, Karnataka

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### Abstract

Tuberculosis remains a serious cause of illness and death worldwide. Approximately 80% of TB cases are found in the 22 countries defined as high-burden countries with India listed being one among those countries. Inadequate knowledge and poor practices remain major the causes for transmission of disease and poor adherence to treatment. The present study attempted to assess the knowledge and practices among the tuberculosis patients of Dharwad. The results education and income were the major determinants of levels of knowledge and practices among the subjects. Majority of the subjects had moderate levels of knowledge and practices indicating inadequate levels of knowledge levels and practices among the subjects. Thus indicating a need for education intervention to improve the knowledge and practices to combat tuberculosis.

**Keywords:** Knowledge, practices, tuberculosis

### Introduction

Tuberculosis (TB) is one of the most common worldwide infectious disease and the single largest cause of death in the world. Since 1993, it has been declared as "global emergency" by the World Health Organization (WHO) until now. India, the world's second most populous country, accounts for a quarter of the world's annual incidence of TB. Every year around two million people develop TB in India and 300,000 die of disease. The widely accepted DOTS (Direct Observatory Treatment Strategy), developed by WHO emphasizes on case detection, uninterrupted treatment with intensive short-course chemotherapy and evaluation of treatment outcome. Cure rates have consistently been above 85 percent but the decline in TB incidence has been slow, mortality remains unacceptably high and the emergence of drug-resistant TB has become a major public health concern. The understanding of infectious diseases and their prevention is of paramount importance. Despite the tremendous advances in medicines and facilities there is still an increasing incidence with continued reporting of relapse and drug resistant TB due to poor treatment adherence. Lack of knowledge and poor practices represent a serious problem in the control of infectious and contagious diseases such as tuberculosis. This shows the complexity of combating tuberculosis and emphasizes the importance of well-targeted information. Numerous studies have proved that lack of knowledge is likely to prevent appropriate positive healthcare seeking behaviors. Like other chronic illness, appropriate knowledge towards Tuberculosis (TB) was significantly associated with positive healthcare seeking action (Abebe *et al*, 2010) [1]. Literature indicates that TB control can significantly be enhanced if more concern is given to improve knowledge and practices towards disease. (Alvarez-Gordillo *et al.*, 2000).

### Material and Methods

The present study was carried out in Hubli – Dharwad cities of Karnataka state in the year 2017. The hospitals were purposively selected based on DOTS (Direct Observatory Treatment) centers and availability of the patients. Civil hospital and Madarmaddi PHC of Dharwad, Karnataka Institute of Medical Sciences and Chitgubbi Hospitals from Hubli were selected for the study. About hundred and five tuberculosis patients, visiting these hospitals and willing to participate and spare time for interview were enrolled in the study. A detailed schedule was formed to elicit the information on various aspects related to tuberculosis patients. The schedule included baseline information, knowledge & practices of TB patients. The knowledge schedule included 25 multiple choice questions on what is tuberculosis, its causes, risk factors, treatment, complications, dietary pattern to be followed, foods to be restricted and avoided during disease. The practice questions included 10 yes/no type questions was formulated.

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It included questions on care and hygiene measures taken by the subject to prevent spread of disease, to ensure treatment compliance and vices found in the subject. Each subject was personally interviewed to collect information. Knowledge and practice scores were calculated by the total number of correct answers and right practices given by the subjects. Each correct answer was given one mark. The knowledge of subjects below 11 years of age was not assessed but the practices were assessed by interviewing the parents of child.

**Results and Discussion**

Demographic profile of the selected subjects with tuberculosis is presented in table 1. A total of 105 tuberculosis patients (74 males and 31 females) were included in the study. Men outnumbered women by constituting 3/4 of the total sample. Maximum number of subjects belonged to productive age group 21-30 years (20.95%). Least number were found in age group of 60 years and above (3.80%). As the individual grows he becomes more independent and mobile, with increase in risk of acquiring infection from the environment. Similar results have been reported by Dhanraj *et al.*, (2015) marking higher incidence of TB from 25 to 35 years of age and then the rates declined progressively. Education level of patients showed that maximum number of the patients had education upto primary school (35.26%), followed by illiterates (28.57%), high school (22.85%) and intermediate passed (10.47%). Only 2.8 per cent of the subjects were graduates. Similar trend was observed in both males and females. About 40 per cent of the subjects had income 5,000-10,000 Rs (Rupees) per month, followed by <5,000 Rs (32.38%), 10,000-20,000 (21.90%) and very few subjects had income more than 20,000 Rs per month (5.71%). Similar trend was observed in females. While 37.83 per cent of male subjects had income less than 5,000 Rs followed by 5,000-10,000 (33.78%), Rs 10,000-20,000 (22.99%) and 5.40 per cent had income less than 20,000 Rs per month.

Classification of tuberculosis patients based on knowledge about the disease is depicted in table 2. Majority of the subjects belonged to the moderate knowledge category (44.68%), followed by low knowledge group (31.91%) with few in high knowledge group (23.40%). Similar trend was observed in both male and female subjects (table 2). About half the subjects had moderate level of practices (51.42%) followed by low practices (32.38%). Very few subjects belonged to the high practices category (16.2%). Similar trend was observed in both male and female subjects (table 3). Chinenye (2015) [3] also reported moderate knowledge and practices among tuberculosis patients.

Table 4 and 5 show the association of practices with age gender, education and monthly income. Age was negatively associated with practices and knowledge and was found to be significant. This indicates better knowledge and practices among the younger age group than the older age group. Education level and monthly income also showed a significant positive association with practice and knowledge, as the education level and income increased, more number of subjects were found to be in the moderate and high practice and knowledge categories. All the illiterates and maximum number of subjects with monthly income less than Rs 5,000 had poor practices. None of the graduates and those with income more than Rs 20,000 belonged to low practice category. The results indicate that educational background was an important determinant of the patients' level of knowledge of tuberculosis; those with a higher level of

education scored better than those with lower education. A significant association with negative co relation between age and knowledge, age and practices could be explained by the fact that younger patients were more highly educated. With increase in income there is increased accessibility to facilities which could depict better knowledge and practices among the subjects. The results of the study are in that with Hoa *et al.*, (2004) [6].

The knowledge and practices followed by the subjects regarding different aspects of disease are depicted in fig 1 and 2. More than half the subjects had knowledge about symptoms of TB (73.33%), followed by meaning of disease (50%) and treatment (43.33%). Whereas the subjects had poor knowledge regarding risk factors (36.67%), followed by transmission of disease (30%) and diagnosis (26.67%) with least number of them having knowledge about dietary management during disease period (20%). Similarly Grle *et al.*, (2013) [5] also reported better knowledge regarding meaning of disease, and treatment of disease (72.56%, 51.2% and). Likewise very few subjects followed hygiene practices to prevent transmission of disease followed by withdrawal from vices (26.66% and 20%). Moderate number of subjects presented care seeking behavior and compliance to treatment (56.66% and 53.33% respectively). Bhatt *et al.*, (2010) [2] reported practice of safe method of sputum disposal among 23 percent of their study subjects which indicates poor practices regarding transmission of disease among the subjects.

**Table 1:** Demographic profile of tuberculosis patients N=105

Demographic profile	Subjects				Total	Percentage
	Male (n=74)		Female (n=31)			
	F	%	F	%		
<b>Age (yrs)</b>						
1-10	3	4.05	7	22.58	10	9.52
11-20	4	5.40	7	22.58	11	10.47
21-30	17	22.97	5	16.12	22	20.95
31-40	14	18.91	7	22.58	21	20.00
41-50	15	20.27	3	9.67	18	17.14
51-60	17	22.97	2	6.45	19	18.09
>60	4	5.40	0	0	4	3.80
<b>Education level</b>						
Illiterates	22	29.72	8	25.80	30	28.57
Primary school	24	32.43	13	41.93	37	35.26
High school	17	22.97	7	22.58	24	22.85
Intermediate	8	10.81	3	9.67	11	10.47
Graduate	3	4.054	0	0	3	2.85
<b>Monthly income</b>						
< 5,000	28	37.83	6	19.35	34	32.38
5,000-10,000	25	33.78	17	54.83	42	40.01
10,000-20,000	17	22.97	6	19.35	23	21.90
> 20,000	4	5.40	2	6.45	6	5.71

**Table 2:** Classification of tuberculosis patients based on knowledge\* N= 94

Knowledge level	Subjects				Total	
	Male (n = 70)		Female (n= 24)		F	%
	F	%	F	%		
Low (<4.5)	22	31.42	8	33.33	30	31.91
Moderate (4.5-6.5)	30	42.85	12	50.00	42	44.68
High (>6)	18	25.73	4	16.66	22	23.40

F – Frequency % - Percentage

\*Based on the formula mean ± SD (0.425)

**Table 3:** Classification of subjects based on practices followed\* N = 105

Practices	Subjects				Total	
	Male ( n =70)		Female( n = 24)		F	%
	F	%	F	%		
Low (<2.64)	21	28.37	14	45.16	34	32.38
Moderate (2.64-5.4)	40	54.05	13	41.94	54	51.42
High (>5.4)	13	17.58	4	12.90	17	16.20

F – Frequency % - Percentage

\*Based on the formula mean±SD (0.425)

**Table 4:** Association of Knowledge with Age, Gender, Education and Monthly income N=94

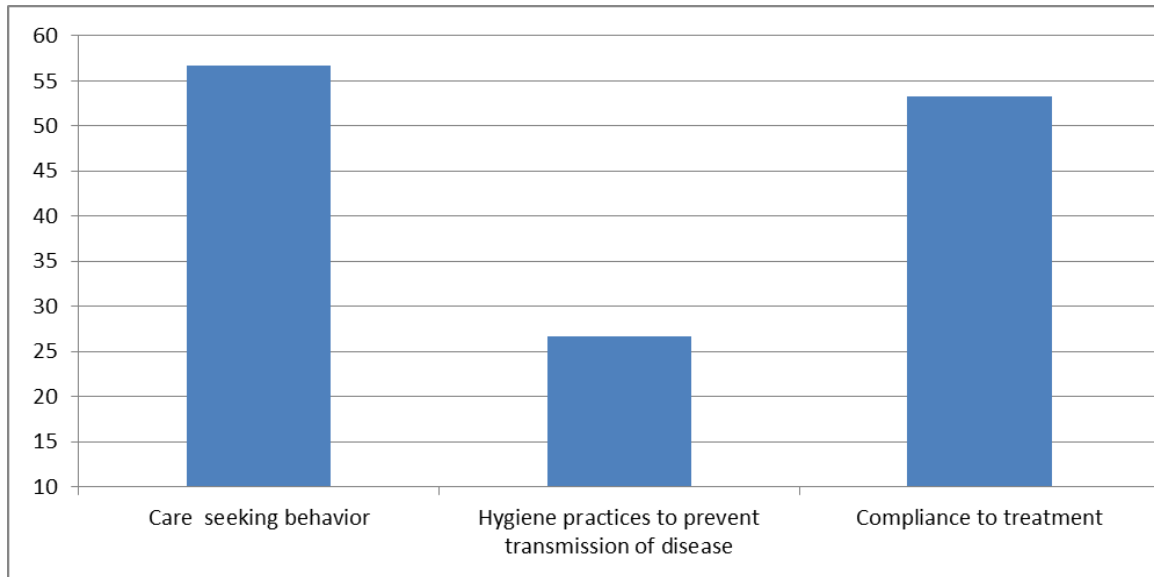
Characteristics	Knowledge level			Raw total	χ <sup>2</sup> Value	r value
	Low (<4.5)	Moderate (4.5 - 6.5)	High (>7)			
<b>Age (years)</b>						
11- 20	1	2	7	10	22.51**	-0.169
21-30	7	10	5	22		
31-40	5	9	7	21		
41-50	3	7	7	19		
51-60	4	8	8	18		
>60	2	2	0	4		
<b>Gender</b>						
Male	17	29	24	70	47.516	0.08 <sup>NS</sup>
Female	2	12	8	24		
<b>Education level</b>						
Illiterate	3	1	0	4	36.237**	0.465**
Literate with no school	5	3	2	10		
Primary school education	10	20	14	44		
High school	4	9	9	22		
Intermediate	0	5	6	11		
Graduate	0	1	2	3		
<b>Monthly income (RS )</b>						
< 5,000	14	11	5	30	56.742**	0.613**
5,001-10,000	10	13	14	37		
10,001-20,000	5	9	11	25		
≥ 20,000	0	0	2	2		

\*\* Significant at 0.01 level (p value <0.001)

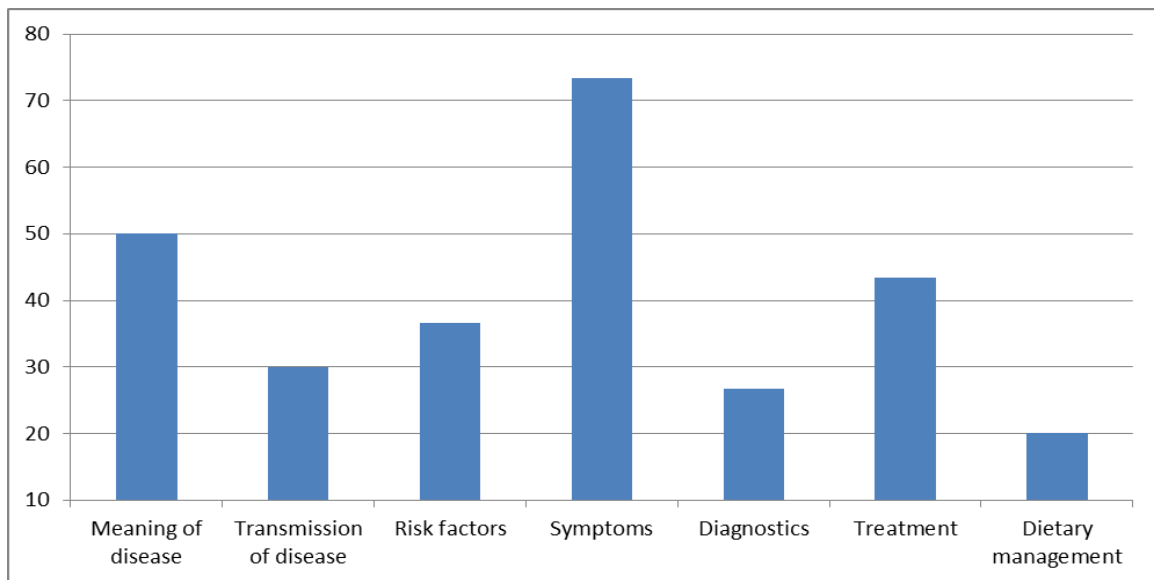
**Table 5:** Association of practices with age, gender, education level and monthly income N=105 (Males =74, Females= 31)

Characteristics	Practice level			Raw total	χ <sup>2</sup> Value	R value
	Low (<2.64)	Moderate (2.64 - 5.4)	High (>5.4)			
<b>Age (years)</b>						
1-10	3	5	4	11	22.51**	-0.198 <sup>NS</sup>
11- 20	4	3	2	9		
21-30	6	10	6	22		
31-40	5	14	2	21		
41-50	6	8	4	18		
51-60	7	9	3	19		
>60	3	1	0	4		
<b>Gender</b>						
Male	25	35	14	74	47.51 <sup>NS</sup>	0.08 <sup>NS</sup>
Female	14	12	5	29		
<b>Education level</b>						
Illiterate	4	0	0	4	36.23**	0.383**
Literate but not gone to school	11	8	3	22		
Primary school education	21	15	7	43		
High school	6	13	3	22		
Intermediate	4	5	2	11		
Graduate	0	1	2	3		
<b>Monthly income</b>						
< 5,000	17	15	7	39	56.74**	0.373**
5,001-10,000	8	24	6	38		
10,001-20,000	7	13	2	22		
≥ 20,000	0	4	2	6		

\*\*Significant @ 0.01 level



**Fig 1:** Knowledge levels regarding different aspects among the subjects



**Fig 2:** Practices levels among the subjects

**Conclusion**

This study revealed that in general, knowledge and practices regarding tuberculosis within the population was not adequate. Education level and income were important determinants of knowledge and practices. Adequate counseling and education of patients is important. To reduce stigma and the impact of social consequences of TB, health education programs must be designed to increase the knowledge level throughout the population to ensure.

**References**

1. Abebe G, Deribew A, Apers L, Woldemichael K, Shiffa J, Tesfaye M *et al.*, Knowledge, Health Seeking Behavior and Perceived Stigma towards Tuberculosis among Tuberculosis suspects in a Rural Community in Southwest Ethiopia. *J.P. One.* 2010; 5(10):e-13339.
2. Bhat S, Singal N, Aggarwal CS, Jain RC. Knowledge, Attitude and Practices of Newly Diagnosed Sputum Positive Cases of Pulmonary Tuberculosis. *Journal of Communicable Diseases.* 2010, 1999; 31:247-255.
3. Chinenye Nwankwo Mercy. Evaluation of knowledge, attitude and practices of TB diagnosed patients in

- Rawanda towards TB infection, case of TB diagnosed patients in Kigali Urban and Rural Health facilities. *Int. J Sci and Res. Pub.* 2015; 5(8):1-19.
4. Tuberculosis among general urban population and student population in Zagreb. *J Med. Fluminensis,* 50(1), 98-105.
5. Grle SP, Davor P, Brcina N, Borcic T. Differences in the knowledge about tuberculosis among general urban population and student population in Zagreb. *J Med. Fluminensis.* 2013; 50(1):98-105.
6. Hoa NP, Diwan VK, Co NN, Thorson AE. Knowledge about tuberculosis and its treatment among new pulmonary TB patients in the north and central regions of Vietnam. *Int. J Tuberc, Lung, Dis.* 2004; 8(5):603-608.