

Knowledge, Attitude And Beliefs Of Household Contacts Of Tuberculosis About The Cause, Spread And Prevention Of Tuberculosis In A Rural Population Of Vellore District, Tamilnadu.

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Abstract: Tuberculosis is still a major public health problem in India. Lack of knowledge about the cause, risk factors, treatment and prevention of pulmonary TB is a major challenge to be addressed to reduce disease transmission. This study was planned with the objective of determining the Knowledge, Attitude and Beliefs of household contacts of TB about the cause, spread and prevention of tuberculosis in a rural population of Vellore district, Tamil Nādu, Vellore. The aim of the study was to assess knowledge, attitude and beliefs of household contacts of TB about the cause, spread and prevention of tuberculosis.

Methods: This community based cross sectional study was carried during January to March 2020. Sample size of 61 was calculated by using formula $4pq/d^2$ and respondents were selected from sampled households using systematic random sampling. Data were collected using a pre-tested, structured questionnaire, which were analyzed using SPSS version 16.0 and presented using descriptive and analytical statistics.

Results: Among 61 participants studied, only 45.5% had adequate knowledge on PTB, 14.7% had positive attitude and 26.5% had good practices towards PTB. About 91.5% had heard about TB and 79% knew that TB could be transmitted from a patient to others. The cause for TB was correctly mentioned by only 19.5% of the subjects. About 35% knew that transmission of TB is preventable. Positive attitude had a statistically significant association with higher socioeconomic class and with adequate knowledge. Good practices on TB were more noted among participants with adequate knowledge and with age ≤ 45 years.

Conclusions: Study respondents had basic awareness about pulmonary TB but knowledge on cause and prevention was inadequate. Their attitude and practices towards TB also need to be improved. Health education activities need to be intensified for the rural population to bring about significant change in their level of awareness on TB.

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I. Introduction:

Globally, 9.7 million people get sick with Tuberculosis (TB) and 1.7 million people die from it, each year. TB continues to be a major public health problem across the world. It causes ill-health among millions of people each year and ranks as the second leading cause of death from an infectious disease. In 2006, 1.7 million deaths resulted from TB: the majority situated in sub-Saharan Africa. Even though the incidence of TB has decreased worldwide, an estimated 10.4 million people developed TB in the year 2015 of which one-quarter was from Africa.

In every second; around the globe a person is infected with TB and every 10 s someone dies as a consequence of the disease. The 2018 Global TB report showed that Ethiopia is included in the 30 high TB burden countries and in Ethiopia the case detection of the disease was 62 (51–74%) for all forms of TB. Raising communities' awareness contributes for early diagnosis of TB which is one of the pillars of the End TB Strategy. Studies documented a positive association between TB knowledge, care seeking and treatment adherence. To address such issues, the level of knowledge should be known to design an appropriate interventional programme in a specific region.

The finding from various studies indicate that patient delay may be influenced by several factors, namely lack of knowledge, lack of awareness of the significance of symptoms, negative social attitudes, or combinations of these.

In the year 2020, there was an estimated incidence of TB burden of around 199/1,00,000 population in India. Knowledge about the transmission and care about TB will help in improvement in adherence to treatment, reduce the stigma around TB, help in reducing transmission and hence, improve the overall TB

outcomes. Stigma surrounding TB is more common in developing countries. Hence, removal of stigma and improving knowledge regarding causal agent, transmission, treatment, and prevention is of utmost importance in improving the outcomes of local TB control programs.

PRIMARY OBJECTIVE was to estimate the knowledge & attitude of household contacts of patients with tuberculosis about the cause, spread and prevention of tuberculosis.

SECONDARY OBJECTIVE was to assess the coverage of TB screening among contacts and TB prophylactic therapy among children who are contacts.

METHODOLOGY

- Study Design - Cross-sectional study design was used among household members of TB patients who have been started on ATT from CHAD from July 2019 to Dec 2020
- Study Tools – Interviewer administered questionnaire.

INCLUSION CRITERIA

- Household contacts of patients with pulmonary TB who satisfied the following:
- Household contact is defined as
 - An individual who has resided in the same house as the index patient for at least 3 months prior to the diagnosis of TB in the index patient (WHO)
 - All people who have food from the same kitchen as the sputum positive T patient (RNTCP)
- 18 years and above

EXCLUSION CRITERIA

- Those relatives who have also been diagnosed to have TB and are on ATT.
- Those who were unable to comprehend
- Those contacts who were inaccessible (wrong mobile numbers/ address/ migrated)

SAMPLE SIZE

- In a similar study done in Spain, 855 was the required sample size, as the prevalence of TB knowledge was 14.2%, an accuracy of 2%, a design effect of 1.5 per stratification per city and an alpha error of 0.05.
- $N = (4pq/d^2)$; Therefore, sample size N is calculated to be 194.

II. Results:

Relationship with the patient: Majority (32.7%) were spouses, siblings 27.8%); parents were 22.9%; others 11.4% (includes Daughter in law, Mother-in-Law, Aunt, Brother in Law and Uncle) and children 4.9%.

Age: Mean age was 39.18, median was 40 and the standard deviation was 13.36. Majority of them were (26.2%) from 18-28 and 39-48 years.

Gender: Majority of them (59%) were females; and 41% of them were male.

S.No	ITEM	
1	Where do you go for treatment?	55.7% clinic hospital; 20.7% -pharmacy; 24.5% -private physician; 1.6% - church
2	How often do you seek health care?	97% -only when sick; 3% - once a year
3	Have you ever had TB?	14.8% -yes; 85.2% -No
4	Where did you learn about TB for the 1 st time?	Table
5	How serious a disease do you think TB is?	80% - very serious; 20% somewhat serious
6	What are the symptoms of TB?	Table
7	How does TB spread?	90.1% -coughing/sneezing; 37.7% -eating from the same plate; 19.6% -sharing dishes clothes; 6.5% -shaking hands; 4.9% -touching public items; 4.9% -don't know
8	How can we prevent spread of TB?	Table
9	Who can get TB ?	90% -anybody; 14.7% -drug users; 8.1% -smokers; 4.9% -Alcoholics; 3.2% -people living with HIV/AIDS; 1.6% -prisoners; 1.6% -homeless people
10	How long does TB treatment last?	89% -correct; 8% -wrong; 3% -don't know
11	Is TB curable?	100% -yes
12	How is TB cured?	100% -said by taking specific drugs from health care centre; and by taking good nutrition, stop Alcohol & smoking.
13	What is the risk of incomplete treatment or poor compliance?	Table
14	Can I get TB? If yes-why? If No-why?	51% -yes (By Air, food, close contact, decreased immunity, anybody can get) 49% -No (cleanliness,
15	What would be your reaction if you discovered that you had TB?	Table 45.9% -Sad; 26.2% -don't believe or accept; 24.5% -embarrassed; 22.9% -fear; 3.2% -take treatment.
16	Who would you talk about your illness if you had TB?	Table 50.8% -Doctor/ medical professionals; 34.4% -parents; 27.8% -spouse; 14.7% -children.
17	What would you do if you thought you had	86.8% -go to health facility; 16.3% -get medicines from

	symptoms suggestive of TB?	pharmacy; 1.6%-go to traditional healer.
18	If you had symptoms of TB, at what point would you go to the health facility?	28%-symptoms suggestive of TB 39%-own treatment doesn't work 33% -symptoms more than 3 weeks.
19	How expensive is TB treatment is for the patient in our country?	68.8%-free; 9.8%-specific treatment; 8.1%-reasonable rate; 6.5%-expensive; 6.5%-don't know
20	What do you feel about people with TB?	95%-feel compassionate but tend to stay away 5%-compassionate and desire to help them.

Where did you learn about TB for the first time?
(More than one answer)

Table 1

Physician/nurse	52 (85.2%)
Friends/family	20 (32.7%)
TV	5 (8.1%)
Newspapers and magazines	2 (3.2%)
Brochures, posters, print	2 (3.2%)
Radio	1 (1.6%)

What are the symptoms of TB?
(NOT PROMPTED)

Table 2

Weight loss	40 (65.9%)
Cough	33 (54%)
Cough lasting more than 3 weeks	27 (44.2%)
Fever	21 (34.4%)
Coughing up blood	15 (24.3%)
Nausea	11 (18%)
Fever for more than one week	10 (16.3%)
Fatigue	9 (14.7%)
Dyspnoea	8 (13.1%)
Headache	6 (9.8%)
Others	5 (8.1%)
Chest pain	2 (3.2%)
Rash	1 (1.6%)

Others - Abdominal distension, loss of appetite, lymph node/ neck swelling **

Table 3
How can we prevent spread of TB?
(More than one answer)
(NOT PROMPTED)

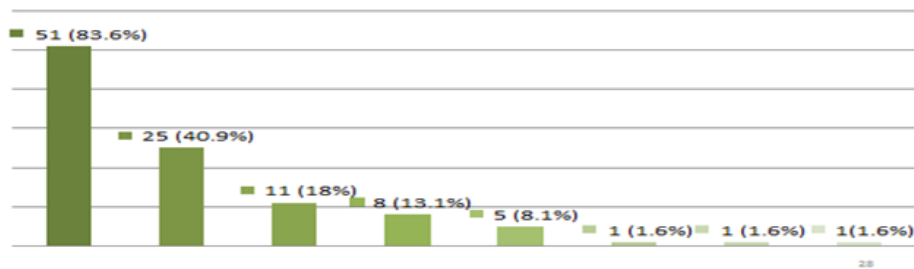


Table 4
What is the risk of incomplete treatment or poor compliance?
(Open ended)

Recurrence	28
Worsen disease	12
Death	6
Prolong treatment	6
Resistance	2
Weight loss	2
Do not know	1

Others – hemoptysis, lung problem, nocure, nil

Table 5

What would you do if you thought you had symptoms suggestive of TB?

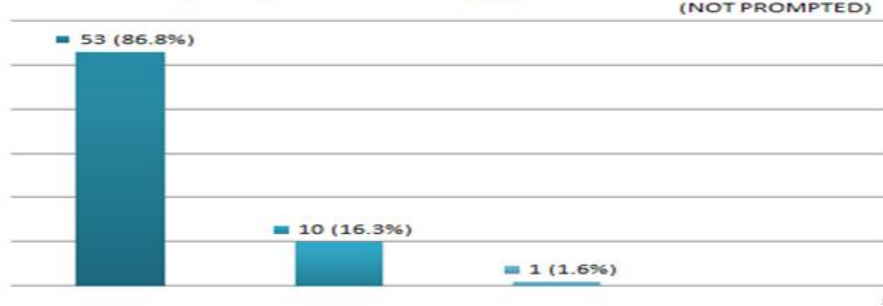
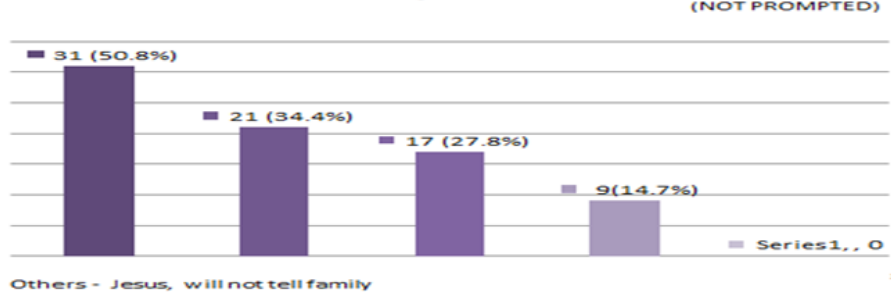


Table 6

Who would you talk to about your illness if you had TB?



Association of education with good knowledge (N=61)

	Good knowledge (n=37)	Poor knowledge (n=24)	P value	OR (95% CI)
High school education and above	19(51.4%)	6(25%)	0.041	3.167 (1.026 - 9.770)
Middle school education or below	18(48.6%)	18(75%)		

Association of hospital admission with good knowledge (N=61)

	Good knowledge (n=37)	Poor knowledge (n=24)	P value	OR (95% CI)
Hospital admission (n=12)	5(13.5%)	7(29.2%)	0.133	0.379 (0.104 - 1.378)
No admission	32(86.5%)	17(70.8%)		

Association of number of households with 2 or more patients with good knowledge (N=61)

	Good knowledge (n=37)	Poor knowledge (n=24)	P value	OR (95% CI)
More than 2 patients in the family	6(16.2%)	4(16.7%)	0.963	0.968 (0.242 - 3.864)
1 patient in the family	31(83.8%)	20(83.3%)		

Association of household contacts with previous history of TB with good knowledge (N=61)

	Good knowledge (n=37)	Poor knowledge (n=24)	P value	OR (95% CI)
Previous history of TB	7(18.9%)	2(8.3%)	0.255	2.567 (0.486 - 13.566)
No previous history of TB	30(81.1%)	22(91.7%)		

❖ 100% of the participants said TB is curable and by taking specific drugs from the health centre TB can be cured; along with medications good nutrition and stop alcohol and smoking is important.

III. Conclusion:

Knowledge:

- Majority (97%) of them will seek medical help only when sick.
- Majority of them (90.1%) expressed the signs and symptoms of TB is coughing/sneezing.
- Majority (80%) said TB is very serious disease.
- 100% said TB is curable and by taking specific drugs from health care center we can recover from TB.

- Majority (68.8%) said the cost of TB treatment is free.

Attitude:

- Majority (45.9%) of them expressed they will be upset/ sad when they get TB.
- 26.2% said they don't believe or accept; 24.5% said they will be embarrassed; 22.9% will get fear; 3.2% said take treatment when they get TB.
- They inform the following people when they get TB: 50.8% approach Doctor/ medical professionals; 34.4% will inform parents; 27.8% will inform to spouse; 14.7% will share with their children.
- Majority of them (86.8%) will go to health facility when they have symptoms of TB

Practices:95%-feel sympathetic but tend to stay away from TB patients.

- Majority (39%) of them expressed they go to hospital when their own treatment doesn't work.
- Majority (33%) of them said they take treatment when their symptoms exist more than 3 weeks.

Health seeking: majority of them (55.7%) had expressed that they will go to hospital/ clinic; 22.7% said they get medicines from pharmacy; 24.5% said they got to private physician and 1.6% had expressed that they go to church and pray.

Majority of them (97%) seeking health care only when they become sick; 3% of them go for check-up once a year. Majority (52%) of them were not infected with TB, 9% of them had TB.

Majority of them (85.2%) of them had expressed that they learnt TB from Physician / Nurse; others said that they learnt from other sources. (TV, Radio, Brochures, posters, family & friends).

Majority of them (80%) expressed TB is very serious, 20% of them said TB is not serious.

In conclusion, most participants had poor health-seeking practices, there was still significant stigma associated with TB as well as knowledge gaps on transmission, prevention, and cost of treatment of TB. Training and continued re-training of health care workers especially community and village health workers to educate the public on TB is very much needed. The results of this study can be used for designing health communication and targeted preventive to this population.

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