

Assessment of Knowledge, Attitude and Practice related to Tuberculosis among Rural and Urban Community of North India

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Abstract

Tuberculosis is known as one of the long-standing and dominating health problems affecting people and the extent further escalates in a developing country like India. A pre-evaluated feedback structured questionnaire was validated and adopted to get their quantitative data from 424 respondents. In the present study urban respondents (60.8%) gave affirmative responses regarding awareness of TB, especially with mobile media as their major source of information, followed by information from healthcare workers. Rural respondents were less expressed and deficient on knowledge of TB transmission and preventive methods. Prevention practices toward TB are claimed to be high in urban population because 79.48% believed that early diagnosis, prompt treatment and avoiding poor hygiene and crowded environment are effective strategies to cease the transmission of TB. Effective preventive and informative strategies should be employed in rural border areas to make up for the knowledge gap found among rural and urban populations in this study.

Keywords: Urban Population, Feedback, Developing Countries, Tuberculosis, Surveys and Questionnaires, Hygiene.

INTRODUCTION

Annually in our country, more than 2 million incident TB cases are reported, accounting to 20% of the global burden.^[1] The government of India on 1st January 2020 renamed the Revised National Tuberculosis Control Programme (RNTCP) as National Tuberculosis Elimination Program (NTEP) and its important milestones is to END-TB by 2025, which include awareness, information spread, increased detection, screening, treatment and follow-up.^[2,3] TB being highly prevalent in rural and border regions and gaining its speed in the urban population.

AIM AND OBJECTIVE

To evaluate the knowledge, attitude, and practice (KAP) regarding TB among rural and urban communities.

MATERIALS AND METHODS

This community-based cross-sectional study was conducted as a part of the medical association Camp setup for the rural population in villages of Indo-Nepal Borders. The institutional

ethic board duly approved the study. Medical residents collected data from the population coming for the survey in local language (Hindi). The study included all the available persons coming to camp for interviews. The questionnaire was validated and finalized, covering the necessary TB topic given below.

- Extent of knowledge and information on tuberculosis and its transmission, clinical signs and symptoms of TB infection
- Perception and attitude of people towards patients of tuberculosis and its treatment.

Response provided for important topics of TB were compared between two communities (1-Rural and 2- Urban) and analyzed. The purpose of the study was carefully explained to rural and urban participants, followed by obtaining

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verbal consent individually before the TB questionnaire was administered. As it was just a questionnaire-based study with no involvement of invasive procedures, risks of study or treatment-related harm or injury were minimal or not at all. All study data were entered in the latest version of Microsoft Excel and analyzed using SPSS software, version 16.0. Simple proportions were calculated.

RESULT

Among 424 total respondents, 228 (53.8%) were from the rural areas near the Indo-Nepal border and 196 (46.2%) were from the urban community. Most respondents from both communities (urban 38.6%, rural 51.4%) were in the age group of 25–39 years, followed by less than 25 years (urban 31.4%, rural 25.7%) or above 40 years (urban 30%, rural 22.9%) in age. When reporting the comparative literacy rate between two communities, we observed that 54.3% urban and 34.3% rural respondents had education till high school, and on illiteracy rate we found 4.3% urban and 25.5% rural respondents were unable to read or write. In the present study, we compared the prevalence of joint and nuclear family in both communities and we found that mean persons per household were 3.70 ± 2.63 in the urban areas due to the preference of

nuclear family and the rural communities are more inclined towards joint family having mean persons per household 6.81 ± 3.27 in the rural areas.

An overwhelming majority of urban population (93.1%) heard about TB disease in comparison to rural population (56.6%) without significant age or gender difference. The predominant sources of information about TB related knowledge and awareness in the study area was mainly due to mass media (particularly mobile phones) and health professionals.

Among the participants in both population groups, 52.83% correctly answered “Bacteria” for the first question “what is the cause of TB?” Other responses given by respondents were viruses (16.9%) followed by fungal pathogens (3.8%). In the present study, among total rural participants only 49.1% and in urban population 91% said that tuberculosis is an infectious disease.

As shown in Table 1, almost more than three fourth of the urban participants were completely aware about the major organ involved, i.e., the lung and the mode of spread of tuberculosis. However, in rural study population, only 28% knew that lung is the predominant organ affected in TB. The majority of the urban participants (80%) believe

Table 1: Knowledge about TB clinical features, transmission and prevention

Knowledge	Rural (n=228) N (%)	Urban (n=196) N (%)	p-value
Tuberculosis most commonly affects which part of body?			
Brain	14 (6.0)	6 (3.5)	0.29
Eye	2 (1.0)	12 (5.8)	0.08
Lung	64 (28.0)	152 (77.4)	<0.0001
Liver	2 (1.0)	10 (5.4)	0.06
Heart	28 (12.0)	12 (5.8)	0.13
Don't Know	118 (52.0)	4 (2.4)	< 0.001
Symptoms			
Mucopurulent cough for more than 2 weeks	82 (36.1)	156(80.0)	P<0.001
Weakness and fatigue	134 (58.7)	110 (56.5)	P=0.037
Loss of appetite	130 (57.4)	124 (63.5)	P= 0.06
Nausea and vomiting, upper abdominal discomfort	104 (45.4)	102(51.7)	P=0.042
Don't Know	80 (35.4)	10 (4.9)	P < 0.001
Transmission			
Eating contaminated food	24 (10.5)	6 (3.06)	P = 0.65
Tattoo or body piercing	38 (16.67)	12 (6.12)	P < 0.017
TB patient Coughing in front of others	116 (50.8)	158 (80.8)	P<0.001
Blood contact	46 (20.2)	52 (26.5)	P = 0.27
Sexual contact	40 (17.5)	30 (15.3)	P=0.66
Mother to infant transmission during childbirth	78 (34.2)	38 (19.3)	P < 0.02
Treatment & Prevention			
Medicines	140(61.6)	154(78.2)	P<0.001
Cough etiquettes	94(41.2)	88(44.7)	P=0.258
Vaccines	74 (32.7)	86 (43.8)	P<0.001

Table 2: Attitude of rural and urban population towards health seeking behavior & treatment adherence behavior on TB

S.No.	Variables	Rural Population n=228; N (%)	Urban population n=196; N (%)	p-value
1	If you had cough with blood, what would you do?			
A	Nothing	0	0	----
b	Only tell a family member and do self-treatment.	32 (14.03)	8 (4.1)	----
c	Consult a doctor and investigate for the tuberculosis.	196 (85.96)	188 (95.9)	$p = 0.065$
2	Tuberculosis is diagnosed by:			
a	Sputum examination (culture)	40 (17.5)	90 (45.9)	$p < 0.0001$
b	Radiological examination	54 (23.7)	46 (23.5)	$p = 0.97$
c	Blood test	92 (40.4)	42 (21.4)	$p = 0.03$
d	Don't know	42 (18.4)	18 (9.2)	$p = 0.14$
3	Is the recovery complete in tuberculosis?			
a	Yes	120 (52.6)	156 (79.6)	
b	No	80 (35.1)	40 (20.4)	$p = 0.001$
c	Don't know	28 (12.0)	00	
4	How long does the treatment take?			
a	1 month	10 (4.4)	2 (1.02)	$p = 0.29$
b	2 months	54 (23.7)	6 (3.5)	$p < 0.003$
c	3 months	78 (34.2)	6 (3.5)	$p < 0.001$
d	≥6 months	46 (20.2)	176 (89.8)	$p < 0.0001$
e	Don't know	40 (17.5)	6 (3.5)	$p < 0.002$
5	When will you stop taking TB drugs?			
a	Once TB symptoms are disappeared	58 (25.4)	30 (15.3)	$p < 0.05$
b	When feeling healthy	56 (24.6)	24 (12.2)	$p < 0.02$
c	After declaring TB cured /completed by health worker	40 (17.5)	122 (62.2)	$p < 0.0001$
d	Don't know	74 (32.5)	20 (10.2)	$p < 0.0001$
6	What will happen if you stop taking TB drugs before full course of treatment?			
a	TB drugs can't work	04 (1.7)	00	
b	Disease will not be cured	20 (8.8)	108 (55.1)	$p < 0.0001$
c	Disease will be cured	08 (3.5)	10 (5.1)	$p = 0.8$
d	A and B	30 (13.2)	40 (20.4)	$p = 0.21$
e	Don't know	166 (72.8)	38 (19.4)	$p < 0.0001$
7	When having TB drugs & get some its side effects, what will you do?			
a	Consult with health worker/doctor	78 (34.2)	152 (77.6)	$p < 0.0001$
b	Continue the drugs	60 (26.3)	12 (6.12)	$p < 0.0001$
c	Stop the drugs and nothing will do	52 (22.8)	20(10.2)	$p < 0.02$
d	Use herbal medicine	00	00	
e	Don't know	38 (16.7)	12 (6.12)	$p < 0.01$

that mucopurulent cough is the predominant symptom of TB while rural participants answered weakness, fatigue and loss of appetite as the main symptom (67%). About the treatment of PTB, 69.33% said medicines given by health institutions will work better followed by cough etiquettes which will help in the prevention and treatment of PTB (Table 2).

Regarding the attitude of respondents on cure and its duration, most urban respondents said that cure of TB is possible if medications are taken for longer duration and should not be stopped in between. Considering the low literacy rate in the rural population, the rural respondents had no complete information and knowledge regarding the impact of stopping

TB treatment midway and resistance developing from it; also, there was less information regarding side effects occurring due to anti TB drugs (Table 2).

DISCUSSION

The World Health Organisation's end TB strategy aims to reduce the new caseload of tuberculosis by 90% from 2016 to 2035.^[3,4] To achieve this, we need to educate the general population about the disease's cause, spread and clinical presentations with community-based programs. There is a lack of comparative studies that focus on factors for delayed healthcare seeking and the KAP of TB patients in the rural and urban Indian setup that we emphasize in our study. With this background, we conducted a cross-sectional study on metropolitan urban and rural populations near Indo-Nepal border villages in a camp organized by a medical association to determine KAP associated with tuberculosis using a questionnaire.

Regarding the literacy rate among the study population, in the present study most of the metropolitan respondents have gained higher education (54%) while the respondents belonging to the village are either have no schooling (37.1%) or if accessible that is only just primary education (28.6%). Literacy rate and accessibility to the health center is one of the deciding features of how well our National Tuberculosis Elimination Programme (NTEP) is working.

Upon assessing the knowledge of the rural population, about 26.31% and about 81.6% urban respondents said that the cause of tuberculosis was bacteria and 26.4% of total respondents did not have had knowledge about the cause. Easwaran *et al.* (2015) in their study reported similar findings that about 10.6% of rural population from Tamil Nādu, India, responded correctly to the cause of TB in their study.⁵ Regarding the accessibility to TB information, digital media, especially mobile phones, have gained the upper hand for the spread of necessary information related to TB, in the rural population 45% and in urban respondents by 60%. There was a significant difference between the information assessed about tuberculosis from hospitals or healthcare workers. This can be attributed to a lack of near healthcare facilities or screening centers in nearby border areas. Efforts should be focused on educating lower strata of the uneducated public who have no access to radio, TV, and newspapers as well through an active approach by healthcare workers in the community.^[6]

The most common organ affected and symptom stated was Lung and mucopurulent cough with expectoration (77.4 and 80%, respectively) in our urban population under study, which was statistically significant and more than the rural population (28 and 36.1%). This may be explained by urban community involvement in the study. There is a better opportunity for accessibility of information and higher education level of respondents. Almost 80% of rural population residing in villages near the Indo-Nepal border has no knowledge about the most common tuberculosis symptoms. This can be due to high illiteracy rate in this population.

Similar findings were found in rural respondents in our study (85.6%) and reported by Easwaran *et al.* (77.9%) in rural population of Tamil Nādu in 2015.^[5] When the same question was asked to urban respondents whether they will visit to the healthcare facility if suspected of TB symptoms, 95% respondents agreed with the fact that they will visit the hospital for the problem. Haasnoot PJ *et al.* (2010), reported that 72% of the rural subjects in their study correctly stated that tuberculosis can be treatable and in our study, 56% rural people living near the border stated correctly that TB can be cured.^[7] Easwaran *et al.* (2015), reported that 80.1% of the subjects stated treatment to be continued as advised by the doctor and 77.9% stated that start treatment as early as possible to cure TB early in their study.^[5]

This study is need of the hour since the MDR & XDR TB cases are on rise. The present study also focuses on the duration of treatment, when to stop drug and what to do in case of adverse effects. These attitudes were not reported in other KAP studies on tuberculosis in rural and urban populations at the National and international levels.^[8-10] A significant difference was found in the information related to the duration of treatment, many respondents near the border area gave wrong and wage responses while maximum urban respondents gave correct information saying the treatment should continue for more than 6 months as chances of multi-drug resistant TB is parallel increasing nowadays.

LIMITATIONS

The present study has limitations like lack of focus and specified group discussions, which might be used to triangulate the clinical findings, lack of questions about existing and emerging MDR and XDR-TB.

CONCLUSION

Generally, respondents from rural border area lack basic information about TB awareness. Therefore, to bring a remarkable change in attitude of rural respondents, a focused health education strategy will be essential for rapidly eliminating this menace from our country.

CONFLICTS OF INTEREST

Nil

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