Original Article

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Knowledge, Attitudes and Awareness of Health Care Facilities Regarding Pulmonary Tuberculosis among Rural Adults: A Cross Sectional Study

Biradar N.N.

MPH Graduate, JNMC, KLE University, Belgaum, Karnataka.

Katti S.M.

HOD, Department of Community Medicine, JNMC, KLE University, Belgaum, Karnataka.

Mallapur M.D.

Asst. Professor, Statistics, Department of Community Medicine, JNMC, KLE University, Belgaum, Karnataka.

Abstract

Background: Tuberculosis (TB) remains one of the major public health concerns in India. Studies have shown that TB is more common among low socio-economic status and illiterates. The knowledge of these people regarding TB is essential in the control and prevention of the disease. So this study is undertaken to know the level of knowledge, attitudes about TB among rural adults in relation to their socio-demographic factors. **Objective:** To assess the level of knowledge, attitudes and awareness of health care facilities regarding Pulmonary Tuberculosis (TB) among rural adult population. **Methods:** A cross-sectional study was conducted among the rural adults in Handiganur PHC in Belgaum, Karnataka which was selected purposively. Using the universal sampling technique, a total of 678 adults were contacted during the study period and data collected. Pre-designed and pre-tested questionnaire was used to collect the data and written informed consent was obtained from all the participants. The study was conducted for a period of 10 months, from Feb 2012 to Nov 2012. Ethical clearance from Institutional Ethics Committee was obtained. Data were entered and analyzed using SPSS software. Chi square test was used to find the statistical significance. **Results**: Out of 466 respondents, 285 (61.20%) males and 181 (38.80%) females had reported of having heard about TB. The most common symptom of TB replied was cough >2 weeks (53.00%) and the risk factor was close contact with TB patient (34.76%). Only 56.86% were aware that TB was a communicable disease. About 35.20% had thought that TB could be transmitted through eating utensils. Only 22.75% knew the correct duration for TB treatment and 47.64% thought TB is curable. Only 4.5% were aware that BCG vaccination is preventive measure and 6.43% were aware of DOTS. **Conclusion**: The overall knowledge of TB is insufficient in most aspects e.g. symptoms, risk factors, transmission and prevention, and there are misconceptions about TB as well.

Keywords: Pulmonary tuberculosis; Rural adults; Awareness; DOTS.

Introduction

Pulmonary Tuberculosis (TB) is an airborne disease caused by mycobacterium tuberculosis that primarily affects the lungs. TB symptoms include uncontrolled cough and expectoration for over three weeks, loss of appetite, weight loss, evening rise of temperature and sometimes even haemoptysis.[1] It is more common among men than women and affects mostly adults in the economically productive age groups; around two-thirds of cases are estimated to occur among people aged 15–59 years. It is the second leading cause of death among any infectious diseases worldwide after HIV.[2]

The estimated incidence of Tuberculosis is 8.7

Corresponding Author:Biradar N. N., MPH Graduate, JNMC, KLE University, Belgaum, Karnataka.

E-mail:ningu_biradar@yahoo.com

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million cases while 1.8 million deaths occur yearly on the global level. It is estimated that 95.00% of incidence of tuberculosis occur in developing countries only.[3] India has almost one-fourth of the global burden of tuberculosis and tops the list of 22 high-burden TB countries. According to World Health Organisation (WHO) statistics for the year 2011 an estimated incidence of tuberculosis in India is 2.2 million cases out of a global incidence of 8.7 million cases. TB cases in Karnataka state are also on the rise, while more than 68,000 cases (including 42,000 new cases) were reported in 2011, nearly 70,000 (including 43,000 new cases) have been reported this year (2012).[1]

RNTCP covers the whole country since March 2006. The treatment success rate has more than trebled from 25.00% in 1998 to 87.00% in 2009 and also death rate has been brought down seven folds from 29.00% to 4.00%.[4]

It is a preventable and curable disease. Developed countries have achieved spectacular results in the control of tuberculosis. This achievement has been attributed to changes in the non-specific determinants of the disease, such as improvement in the standard of living and the quality of life of the people coupled with the application of available technical knowledge and health resources.[4]

Studies from the developing world have shown that delayed care is closely related with patients' demographic characteristics, knowledge of tuberculosis and traditional beliefs, the uses of multiple alternative traditional care, and fear of stigmatization.[5] So the present study is undertaken with an objective to assess the knowledge and attitude of rural adults towards pulmonary tuberculosis and their awareness of health care facilities available to treat this infectious disease. Achieving a high level of tuberculosis (TB) awareness is crucial for the success of prevention and treatment efforts in high-risk groups, and thus represents a key challenge for public health initiatives. This study will greatly benefit in the planning and implementation of the tuberculosis control program in this area.

Materials and Methods

The present study is community based Cross-Sectional study. Data was collected from adults who were aged between 18 and 60 years and do not have/had the history of pulmonary tuberculosis. The age group of the study population is so selected because nearly two-thirds of cases are estimated to occur among people aged 18–60 years. The participants who have the history of TB disease are not interviewed because it is thought that there is significant difference in the knowledge and attitude towards TB between persons who have and who have not suffered from TB.

The study was conducted at Cheluvenatti village in Handiganur PHC which is approximately at a distance of 15 km from JNMC. This is one of the adopted centers under community medicine department in J N Medical College, KLE University Belgaum. The study area was selected by purposively because it comes under one of the field practice areas of J.N.M.C, under Public Private Partnership, which is adopted by the Department of Community Medicine, KLE University, Belgaum and it was also convenient and feasible to gather the necessary information within the short period framework of data collection.

Cheluvenatti a small village which has the total population of 1306 as per 2011 census, among them the population aged between 18 and 60 years was 725 and all of them were taken up for the study as it is a universal sample size. Of 725 sample population, 17 had refused to participate, 23 had gone out on work to different cities and 7 had the history of tuberculosis (excluded). All the remaining 678 individuals have consented to participate in the study. Prior to data collection, external review and necessary ethical clearance from institutional ethics committee of J.N.M.C, KLE University was obtained for the study.

A pre-designed and pre-tested questionnaire was used and the interview conducted after establishing a good rapport with the

participants by explaining the aims and objectives of the study. Informed consent was taken from the participants and then gathered information about the demographic characteristics (age, sex, religion, education, occupation and income), knowledge, attitude and awareness of health care facilities with regard to pulmonary tuberculosis, and the responses given were marked as per the options mentioned in the pre-designed questionnaire.

The study was conducted for a period of 10 months, from Feb 2012 – Nov 2012. Pretest of questionnaire was done for 50 adults in the study area and the necessary corrections were made and refined.Collected Data were compiled systematically, entered into data entry sheet and then analyzed by using SPSS software (SPSS 20.0 Version). The results were interpreted in the light of the objectives. Proportions were calculated wherever required from frequency tables. Chi square test is used to see the statistical significance of different study variables.

Results

A total of 678 individuals consented to participate in the study but only 466 (68.73%) of them had having heard about tuberculosis, thus the further data collection and analysis has been done of these 466 participants only.

Table 1: Awareness about Risk Factors for TB

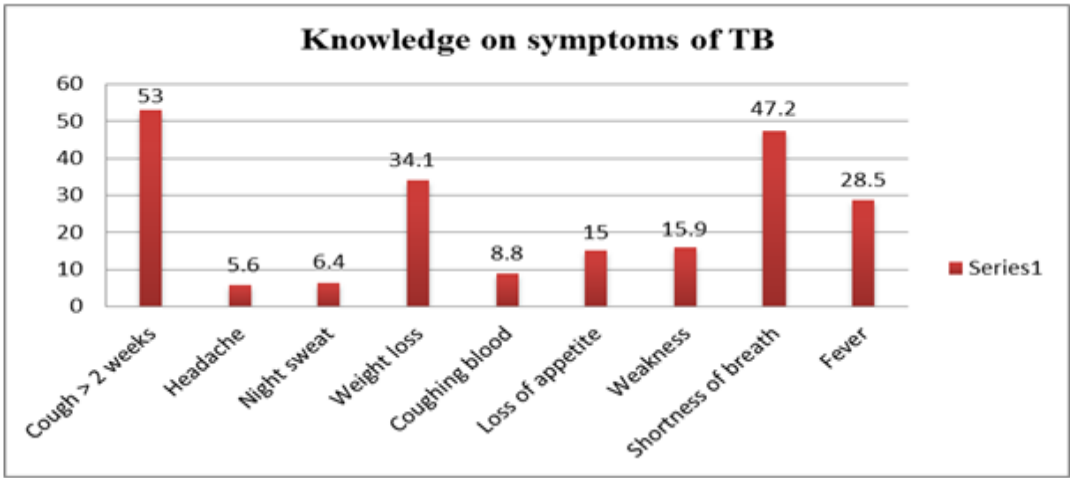
(Multiple responses)

In this study, about 285 (61.20%) males and 181 (38.80%) females had reported of having heard about TB. Illiterate constituted 168 (36.05%) and literate were 298 (63.95%). majority 272 (58.37%) of the respondents were farmers and majority 222 (47.64%) belonged to class four and class five 182 (39.06%), The main sources of information about tuberculosis were friends/ neighbours 311 (66.73%), health service provider 212 (45.49%), TV 159 (34.12%).

In this study, only 265 (56.86%) were aware that TB was a communicable disease whereas 94 (20.18%) thought it was non-communicable and 107 (22.96%) were unaware of its communicability. Most common modes of transmission mentioned were coughing and sneezing 127 (27.25%), eating with a TB patient or using his/her utensils 164 (35.20%), sharing towels 63 (13.50%) and touching TB patient 26(5.57%).

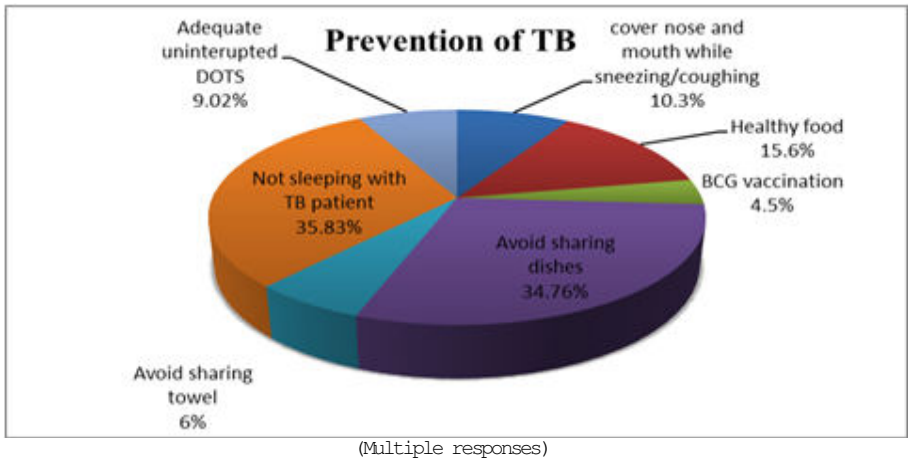
Majority 256 (54.94%) of the respondents were not aware of any kind of tests that were

Graph 1



(Multiple responses)

Graph 2



(Multiple responses)

used to diagnose tuberculosis. Only 71(15.24%) responded that examination of sputum was the best method of TB diagnosis, followed by blood examination 78 (16.73%) and X-ray 61 (13.09%).About 222(47.64%) told that tuberculosis could be cured with uninterrupted complete treatment, where 126(27.03%) thought it was not curable and 118(25.33%) were not aware if it was curable.

'TB is hereditary disease'. About 110 (23.60%) respondents agreed to the statement, Majority of people 430 (92.30%) disagreed to the statement 'TB is the disease of poor people only' majorities of respondents 409 (87.77%) did not perceive that having TB is the result of sinful conduct of people.

Most of them 213 (45.71%) have the attitude of keeping secret in the society if they would have infected with tuberculosis, About 217 (46.56%) of respondents had a perception of isolation of the TB patient till he/she gets cure whereas 186 (39.92%) did not have that perception. about 262 (56.22%) of respondents agreed that TB is associated with stigma and face all kinds of discrimination in the society. Among all the respondents who seek health services by delay, majority that is 74 (51.74%) had given the reason of lack of time, followed by ignorance 48 (33.56%) and 21 (14.70%) of them delayed due to dependency.

Majority, 364 (78.11%) of the respondents preferred allopathic treatment whereas 102 (21.88%) preferred homemade remedies.Only 238 (51.07%) knew that the diagnostic test and treatment of TB was free of cost in government hospitals whereas 228(48.93%) were not aware of it.In this study, only 30(6.43%) respondents were aware of DOTS.

Discussion

In the present study the most common symptoms known by our respondents were persistent cough for more than two weeks (53.00%) followed by shortness of breath/ difficulty in breathing (47.20%), weight loss (34.10%), fever (28.50%) and loss of appetite (15.00%) etc. A study in Rajasthan showed that the commonest symptoms mentioned by the respondents were cough more than 3 weeks (45.20%); coughing out blood (44.10%) and low grade fever (28.90%).[6] Another study from Kudat district, Sabah revealed that the well-known symptoms that the respondents knew were coughing blood (46.20%), cough (37.10%), loss of weight (34.50%), and loss of appetite (32.00%).[7]

In this study, about 34.80% of respondents replied that 'close contact with TB patients' as a risk factor for TB infection followed by 'elderly age group' (30.70%) and 'co-infection with HIV' (27.00%).A study in Bihar showed that 52.00% of respondents said smoking, weakness, malnutrition, or a poor diet were risk factors of TB whereas 14.00% of them replied infection by bacteria was the cause for TB.[8] Similarly a cross sectional study in Ethiopia

explored that the participants associated the cause of PTB with exposure to cold air (45.90%), starvation (38.00%), dust (21.80%) or smoking/ chewing Khat (16.40%).[9]

Present study showed coughing and sneezing (27.30%), eating with a TB patient or using his/ her utensils (35.20%), sharing towels/clothes (13.50%) and touching TB patient (14.00%) were the common modes of transmission. A study among rural people in Belgaum showed that about 37.00% told that it was an airborne disease; only 2.00% said it can be transmitted by sharing food and 59.00% of people were not having any knowledge of its mode of transmission.[10] A study in northern Ethiopia explored that most (67.90%) believed that TB could be transmitted from diseased to healthy person by cough (62.50%), drinking raw milk (35.70%), eating together (40.30%), sleeping together (54.40%) and touching (30.80%).[11] A study in Iran among secondary school students showed that almost all of the participants believed that tuberculosis was transmitted by breathing the air that was previously polluted by the coughing or sneezing of an infected patient, 1.20% chose handshake and 1.20% chose other ways of transmission.[12]

In the present study, about 35.83% told 'not sleeping with the TB patient' 34.76% replied 'not sharing dishes with the patient', eating healthy food (15.66%), covering nose and mouth while coughing or sneezing (10.30%) and BCG vaccination 4.50%. A study in Bihar showed that 32.00% of people answered staying away from those who had TB was the best method of prevention.[8] From a study in Tigray, northern Ethiopia showed isolation from the diseased (25.10%), proper sanitation (13.20%) and vaccination (13.90%) were modalities of prevention of PTB mentioned by respondents.[5] One more study in rural area of Belgaum showed only 31.00% replied covering nose and mouth while sneezing or coughing and 50.00% of people were not aware of it.[10]

In this study it was found that 4.50% had a perception of TB was caused by sinful act so that God cursed them. A study among Maasai in Simanjiro District, Tanzania revealed that 32.00% thought TB was caused by a punishment from God.[13] In the present study, about 46.56% of respondents had a perception of isolation of the TB patient till gets cure, whereas 39.92% replied not necessary to isolate and 13.52% were not aware of it. A study of Urban-rural inequities in knowledge, attitudes and practices regarding tuberculosis in two districts of Pakistan's Punjab province revealed nearly half of the respondents believed that the community rejects the TB patient (urban 49.80%, rural 46.40%).[14]

In this study, majority (51.74%) had given the reason of 'lack of time' followed by ignorance due to less severity (33.56%). About 14.70% of them complained that they could not go to hospital alone since they were old aged, illiterate and female. A study in rural area of Tamil Nadu showed that 29.00% of those with cough for more than three weeks did not seek treatment, where lack of time and money were the important reasons.[15] Another study in Vietnam among rural adults with a cough for at least three weeks showed that the most common reason for not taking action was that the disease symptoms were not considered serious (42.00%).[16]

In this study, only 51.07% of respondents knew that the diagnostic test and treatment of TB were free of cost in government hospital. A study in Nepal showed majorities (81.00%) of the respondents were aware that TB treatment was free of cost in public healthcare.[17] Another study in Belgaum showed that only 13.00% of people were aware of the treatment is at free of cost in government hospital.[10] A is free of cost in the public health institutions.[18] Another study among slum populations of Uganda showed that 35.00% was aware of free TB treatment available in government hospital.[19] In this study only 6.43% of respondents were aware of DOTS. Study in Nepal in 2009 showed 90.00% of the respondents were aware that 'treatment of TB.

Conclusion

The study concluded that the overall

knowledge of TB is insufficient in most aspects e.g. symptoms, risk factors, transmission and prevention, and there are misconceptions about TB as well. This may be an obstacle in effective cure, prevention and control of the disease. It was found that males had the better knowledge compared to females, and young adults were more aware of the disease than middle aged and late adults. Factors significantly associated with the knowledge about tuberculosis were age, gender, literacy status, occupation and income of respondents.

Tuberculosis is re-emerging as a global public health problem and we need to have a better understanding communities' perception of the disease to implement better prevention and control. People's attitude and perceptions towards TB require to be considered while setting health educational activities in the community.

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References

1. Afshan Y. Doctors told to report TB cases to health authority. 2012 Dec (cited 2013 Jan). Accessed from;http://www.thehindu.com/news/national/karnataka/doctors-told-to-report-tb-cases-to-health-authority/article4171573.ece
2 World Health Organization report; Global tuberculosis control 2011. (cited on18/02/2012). Accessed from; www.who.int/tb/publications/global_report/2011/gtbr11_full.pdf.
3. Agboatwalla M, Kazi GN, Shah K and Saeed S. Report of a research study on gender perspectives in knowledge, attitudes and practices concerning Tuberculosis in Pakistan's Sindh Province. *East Mediterranean Health Journal.* 2003; 9(4): 732-40.
4. Park K. Park's Textbook of Preventive & Social Medicine. 21st edition. Jabalpur: Banarsidas Bhanot Publications; 2011, 393-94.
5. Mengiste MM, Tesfay WT, Tareke IG, Mulugeta WM and Madeley JR. Community knowledge, attitudes and practices on pulmonary tuberculosis and their choice of treatment supervisor in Tigray, northern Ethiopia. *Ethiopian Journal of Health Development.* 2005; 19: 21-27.
6. Yadav SP, Mathur ML and Dixit AK. Knowledge and attitude towards tuberculosis among sandstone quarry workers in desert parts of Rajasthan. *Indian Journal of Tuberculosis.* 2006; 53: 187-95.
7. Koay TK. Knowledge and attitudes towards tuberculosis among the people living in Kudat District, Sabah. *Medical Journal of Malaysia.* 2004; 59(4): 502-11.
8. Devey J. Report on a knowledge, attitude and practice survey regarding tuberculosis conducted in northern Bihar. Available from, www.ehahealth.org/index.php?option=com_docman&task=doc_view&gid=11&Itemid=276 Retrieved on 06/01/2012.
9. Legesse M, Gobena A, Gezahegne M, Girmay M, Dawit S, Gunnar B *et al*. Knowledge and perception of pulmonary tuberculosis in pastoral communities in the middle and Lower Awash Valley of Afar region, Ethiopia. *BMC Public Health.* 2010; 10: 187.
10. Karikatti SS. Knowledge and attitude of tuberculosis in rural population. Accesses from; http://www.ruralhealthgoa2012.org/Documents/event/10Dec.DMK/Cumminicable%20DesDMK/2Dr.Shobha%20S.KRURAL.pdf.Retrieved on 20/02/2013.
11. Mengiste M , Tesfay WT, Israel GT, Girmai W, Mulugeta M and Madeley JR. Community knowledge, attitudes and practices on pulmonary tuberculosis and their choice of treatment supervisor in Tigray, northern Ethiopia. *Ethiopian Journal of Health Development*. 2005; 19: 21-27.
12. Seyed HA, Tahereh K, Hamidreza M, Mohammad ES, Shekoofeh AS, Zahra M *et al*.

Knowledge and attitudes towards tuberculosis among secondary school students in rural areas in Hormozgan, Southern Iran. *International Electronic Journal of Medicine.* 2012; 1(1): 11-16.

13. Haasnoot PJ, Boeting TE, Kuney MO and Roosmalen JV. Knowledge, Attitudes and Practice of Tuberculosis among Maasai in Simanjiro District, Tanzania. *American Journal of Tropical Medicine and Hygiene.* 2010; 83(4): 902–05.
14. Mushtaq MU, Shahid U, Abdullah HM, Saeed A, Omer F and Shad MA *et al*. Urban-rural inequities in knowledge, attitudes and practices regarding tuberculosis in two districts of Pakistan's Punjab province. *International Journal for Equity in Health.* 2011; 10(8): 3-9.
15. Kar M and Logaraj M. Awareness, attitude and treatment seeking behavior regarding tuberculosis in a rural area of Tamil Nadu. Indian journal of Tuberculosis, 2010; 57:226-29.
16. Nguyen PH, Anna EK, Nguyen HL and Vinod KD. Knowledge of tuberculosis and associated health-seeking behavior among rural Vietnamese adults with a cough for at least three weeks. *Scand Journal of Public Health.* 2003; 31(62): 59–65.
17. Health Research and Social Development Forum (HERD), Survey of knowledge, attitude and practices among communities to enhance response in Nepal's tuberculosis control program. Available from http://www.nepalntp.gov.np/pdf/KAP%20Kapilvastu.pdf.pp.1-2.Retrieved on 06/01/2012.
18. Ghanshyam B. Knowledge, Attitude and Practices Study on Tuberculosis among community People. The Britain Nepal Medical Trust; 2009.
19. Ekwaro AO, Clea M, Jemimah KK, Simon B, Christine A and Evelyn N *et al*. Socio-demographic determinants and prevalence of Tuberculosis knowledge in three slum populations of Uganda. *BMC Public Health.* 2012; 12: 536.