

ORIGINAL ARTICLE

Knowledge, Attitude and Practice against Tuberculosis Infection Control among Medical Students and Nursing Staff

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Abstract

Background: Poor knowledge of tuberculosis, low risk perception, stigma and lack of access to treatment facilities has been some of the factors militating against appropriate tuberculosis care seeking practices, resulting in delayed TB diagnosis and treatment. The objective of the study was to assess the level of knowledge and awareness among medical students and nursing staff about tuberculosis infection control. **Materials & Methods:** The study was done including of medical students of the college and nursing staff of the college and nearby hospitals regarding the knowledge, attitude and practice of tuberculosis. The study was done with the help of specially prepared questionnaires which were validated by doing pilot study. Total of 88 medical students and 48 nursing staff were given the responses. **Results:** Medical students were having more knowledge, attitude and practice regarding tuberculosis as compared to nursing staff and the difference was found to be statistically significant. **Conclusion:** Regular seminars, symposiums or meetings should be arranged to improve the knowledge about tuberculosis.

Keywords: Knowledge, Tuberculosis, Mycobacterium tuberculosis.

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Introduction

Tuberculosis (TB) is one of the most globally serious public health problems. About one third of the global population has been infected with Mycobacterium tuberculosis. With the increasing prevalence of HIV infection the problem of TB is likely to be compounded in the years to come. India alone accounts for one-third global burden of TB and every year more than 1.8 million new cases appear in the country. Approximately 4,00,000 people die from TB every year in India, more than 1,000 every day and 100 million work-days are lost.¹⁻⁵ The current focus of the Revised National Tuberculosis Control Program (RNTCP) of Government of India uses Directly Observed Treatment Short Course (DOTS) to achieve and maintain a cure rate of over 85% and augmentation of case finding activities to detect at least 70% of estimated cases.⁶

Literature indicates that TB control can significantly be enhanced if more concern is given to improve knowledge and attitudes towards disease.⁷ Therefore this study was carried out to evaluate the knowledge, attitude and practice of the medical students and nursing staff regarding tuberculosis.

Materials and Methods

The study was done including of medical students of the college and nursing staff of the college and nearby hospitals regarding the knowledge, attitude and practice of tuberculosis. The study was done with the help of specially prepared questionnaires which were validated by doing pilot study. The total questionnaires were of 25 in number and included of tuberculosis knowledge, attitude and practice questionnaires. The questionnaires were of yes/no type questions. Each correct answer was given score 1 and incorrect answer was given score zero. All the responses were collected,

tabulated and analysis was done with the help of IBM SPSS statistics 20.

Approval of the ethical committee was taken before start of the study and informed consent was taken from each of the participants before start of the study.

Results

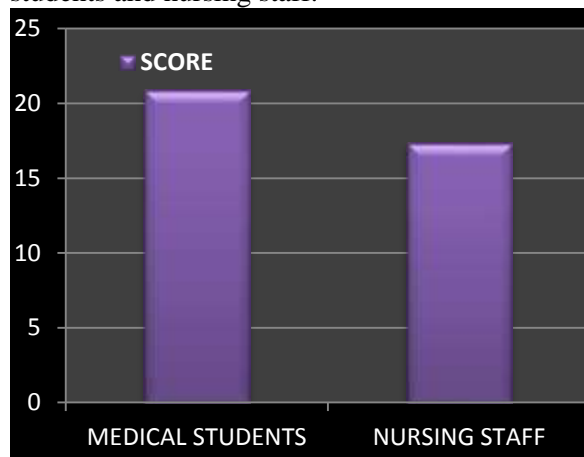
Total of 88 medical students and 48 nursing staff were given the responses. On comparison of the knowledge, attitude and practice scores of the medical students and nursing staff, it was found that medical students were having more knowledge about tuberculosis than nursing staff. But still the knowledge was not sufficient. (Table 1, Graph 1)

Table 1: Comparison of the scores

Group	(n)	Score (Mean±SD)	T value	P value
Medical students	88	20.85±3.70	3.45	P<0.01*
Nursing staff	48	17.35±4.87		

P<0.01= statistically highly significant.

Graph 1: Comparison of the scores of the knowledge, attitude and practice of the medical students and nursing staff.



Discussion

Tuberculosis (TB) is a major public health problem worldwide with India having more prevalence.⁸ The mass survey carried out by Central TB Division, Ministry of Health, Government of India, reported poor level of awareness among general population and very poor among disadvantaged section of the society. Literacy has been identified as the key deciding factor for level of

awareness.^{9,10} Therefore, it was felt necessary to assess the knowledge, attitude and practices of medical practitioners on the diagnosis, treatment and control of TB, so that factors adversely influencing these aspects could be identified for remedial actions to be taken up subsequent.^{11,12}

Numerous comprehensive IPC guidelines have been designed for healthcare facilities, inclusive of low-resourced settings.¹³⁻¹⁵ In 2009, Maluti Adventist Rural District Hospital in Lesotho had seven HCWs diagnosed with healthcare-associated TB. That year, there was approximately 225 healthcare workers (inclusive of nursing students) working directly with patients and/or sputum. Thus, 3111 per 100,000 HCWs at Maluti Adventist hospital were newly infected with TB in that year. Those infected were of diverse profiles with one common factor: work-related exposure. Correct knowledge of the health problem, accompanied with the right attitude, can ultimately result in healthy practices and behavior.¹⁶

In the present study, 100% of the participants indicated that they were willing to implement preventive measures against healthcare-associated TB infection. A review study of several international studies supports this finding of a high degree of willingness of HCWs to collaborate with TB national guidelines and infection controls. It needs to be borne in mind that the present study only tested the self-reported willingness of the HCWs to implement changes, which may differ from actual (eventual) practices.

Coming in contact with persons with TB was the most common known way of acquiring the infection, thus its prevention is by avoiding contact with such individuals. The most common known way of preventing TB in India was complete and regular treatment of TB cases (96%), also greater proportion of them mentioned good cough hygiene (30%).¹⁷

Most of the respondents were aware that TB is a highly infectious but curable disease. Despite this fact, a significant number still would not disclose if they were inflicted with the disease for fear of being excommunicated and left out. The relatively-poor outcome based on the knowledge, attitudes and practices among the respondents showed that there is a need to implement activities that would educate the public about the disease. These activities should

put emphasis on the seriousness of the disease, the modes of transmission, the sequelae of treatment interruption and the curability of TB.¹⁸ Based on different survey, the media, as well as, personal experience were successful means of disseminating information about TB. The survey also found that consults were sought mainly in the hospital and the local health centers. These were promising venues for better detection of TB cases—predicting better therapeutic outcomes for patients. This finding also indicated the need to strengthen health education activities through mass media and to foster collaboration between hospitals, local health center and the National TB program.¹⁹

Although TB is a common disease in this region, only very small proportion of respondents considered that they or their family were at high risk of getting TB. This showed that the people here either believed that TB is a rare disease or TB attacks only certain people. Individuals with this type of attitude may delay seeking professional treatment if they get TB. This is because people are not inclined to seek medical attention for illnesses, which they perceived as less common.¹⁹

It was concluded that a significant number of physicians in private practice did not adhere to the standard norms for prescribing anti-TB treatment, did not know about the regimen recommended by the NTCP, and often prescribed wrong regimens.²⁰

Therefore, information should be conveyed to them to make them aware that TB is a common disease in this region and will not spare anybody. It is very interesting to note that almost all the respondents said that they will consult a specialist medical doctor if they contracted TB. In addition, a great majority (90%) also said that TB can be treated by western medicine. This finding suggest that modern medicine is widely acceptable for treatment of TB in this region.¹⁹

There are several aspects, which need considerable efforts in controlling tuberculosis. The present study of KAP among GPs was an attempt to find out ground realities prevalent in this city, so that appropriate measures can be taken to augment TB control efforts. Majority of GPs were co-operative in this project work but there was reluctance by some GPs in filling the proforma. Since majority of GPs have been

practicing for more than two decades there was understandable difference about the basis of suspecting TB, susceptible age and gender, reliable diagnostic tool, duration of treatment and current national TB control program and its strategy. Majority did not have the knowledge of standard regimen and many resorted to bizarre treatment. Most of GPs were concerned when a patient of TB defaulted and sent words through some acquaintance.¹¹

The respondents were aware of the different symptoms associated with TB. Despite this, the health-seeking behaviors of the respondents were not commensurate to their knowledge about the disease. As seen in other studies, knowledge was not the only factor that affected patient's health-seeking behavior or adherence to treatment, but his (or in this study's case, the treatment partners') attitudes and practices. This study found that in the pediatric population, the treatment partners' knowledge, attitudes and practices were important: they played significant roles in the adherence to anti-TB treatment, and thus in the prevention of complications and progression of the disease. In addition to knowledge, a number of factors also affected the attitudes and practices of these people, such as the stigma of the disease, their financial capacity, and health perception.¹⁸

Symptoms, transmission and etiology of the disease were observed in females and in illiterate patient. From the forgoing awareness study of patients, we would infer that although knowledge regarding etiology, symptoms, mode of transmission was satisfactory, however female and illiterate individual need to be focused on a priority basis for education regarding the disease. Misconceptions and incorrect knowledge like utensils and food as mode of transmission need to be removed. World Health Organization also recognizes the importance of tuberculosis-related knowledge, attitude and practice surveys in advocacy, communication and social mobilization strategy planning.¹⁰

The study highlights the vast scope for utilizing the existing network of general practitioners to augment TB control measures on scientific lines. In spite of the fact that the gaps found between their knowledge and practices have economic and other compulsions, there is urgent need to appraise them about "Revised National

Tuberculosis Control Program” (RNTCP) and to utilize their services in the best interest of reducing TB burden in the community. It is a managerial task by program managers and private practitioners, extending a willing hand in the various efforts of case detection and case holding.

Limitations: Since it was a KAP study, there is no gold standard to measure TB knowledge which made the comparison of the finding with other studies somewhat difficult, therefore this should be considered during the comparisons. Absence of baseline data on the specific target population for comparison was also a problem. The study was not supported by qualitative data because of resource limitation.

Conclusion

Correct knowledge and positive perception of the community towards tuberculosis and its management is a prerequisite for them to seek early treatment. Therefore as a medical practitioner and health care service provider, it is essential to have full knowledge and positive attitude regarding tuberculosis. Regular seminars, symposiums or meetings should be arranged to overcome these deficiencies.

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References

1. Marinac JC, Willis SK, McBride D and Hamburger SC. Knowledge of tuberculosis in high-risk population : survey of inner city minorities. *Int J Tuberc Lung Dis* 1998; 2: 804.
2. Managing the RNTCP in your area – Modules 1 to 4, April 2005. Central TB Division, Directorate General of Health Services, Nirman Bhawan, New Delhi, 2005.
3. Yadav SP, Mathur MI, Dixit AK. Knowledge and attitude towards tuberculosis among sandstone quarry workers in desert parts of Rajasthan. *Indian J Tuberc* 2006; 53:187-195.
4. World Health Organization. Global Tuberculosis Control: WHO Report, 2013. Geneva, Switzerland: World Health Organization; 2013.
5. Kenyi LJ, Martin T, Ohisa G, Matthew D, Macharia S, Joseph L. Knowledge, attitude and practice (KAP) of tuberculosis patients enrolled on treatment in Juba City, South Sudan 2010: a pilot study. *South Sudan Medical Journal* 2014;7(2):28-32.
6. Ministry of Health and Family Welfare, Government of India. Annual Report 2000-01, New Delhi, Nirman Bhawan, 2001; p. 53.
7. Solliman MA, Hassali MA, Al-Hadda M, Hadida MM, Saleem F, Atiff M, Aljadhey H. Assessment of Knowledge towards Tuberculosis among general population in North East Libya. *Journal of Applied Pharmaceutical Science* 02 (04); 2012: 24-30.
8. Easwaran M, Ramachandran D, Ramasamy R, George N, Mathew M, Bazroy J, et al. Knowledge, attitude, and practice regarding tuberculosis among rural population in Tamil Nadu. *Int J Med Sci Public Health* 2015;4:1681-4.
9. WHO Report. Global Tuberculosis Control: Surveillance, Planning, Financing; 2008.
10. Vidhani M, Vadgama P. Awareness regarding pulmonary tuberculosis - a study among patient taking treatment of tuberculosis in rural Surat, Gujarat. *National Journal Of Medical Research* 2012;2(4):452-5.
11. Suryakanta AH, Medonca V, Tejaswini HJ. A study of knowledge, attitude and practices of allopathic medical practitioners regarding tuberculosis and its control in Davangere city. *NTI Bulletin* 2006,42/1&2, 5 -8.
12. Mweemba P, Haruzivishe C, Siziya S, Chipimo PJ, Cristenson K, Johanson E. Knowledge, Attitude and Compliance with Tuberculosis Treatment, Lusaka, Zambia. *Medical Journal of Zambia*, Volume 35 Number 4 (2008).
13. Centre for Disease Control and Prevention. Guidelines for preventing the transmission of Mycobacterium tuberculosis in health-care settings, 2005. *MMWR*. 2005;54 (No.RR-17).
14. California Division of Occupational Safety and Health (Cal/OSHA). Interim Tuberculosis Control Enforcement Guidelines, revised March 1, 1997. Policy and Procedure C-47.
15. World Health Organization. Guidelines for the prevention of tuberculosis in healthcare facilities in resource-limited settings. Geneva, Switzerland. WHO, 1999 [online] 2005 [cited 2010 Dec 14]. Available from: www.who.int/docstore/gtb/publications/healthcare/PDF/WHO99-269.pdf.
16. Bhebhe LT, Van Rooyen C, Steinberg WJ. Attitudes, knowledge and practices of healthcare workers regarding occupational exposure of pulmonary tuberculosis. *Afr J Prm Healthcare Fam Med*. 2014;6(1), Art. #597, 6 pages.
17. Uchenna OU, Ngozi CJ, Oshi DC, Charles N, Meka AO. Assessment of tuberculosis-related knowledge, attitudes and practices in Enugu, South East Nigeria. *Journal of Infectious Diseases and Immunity* 2014;6(1):1-9.
18. Maria CN, Bacay-Domingo MD, Anna LO. A descriptive study of the knowledge, attitudes and practices on tuberculosis among treatment partners of pediatric patients in Tarlac city. *PIDSP Journal* 2009 Vol 10 No.1: 1-8.
19. Koay TK. Knowledge and Attitudes Towards Tuberculosis Among the People Living in Kudat District, Sabah. *Med J Malaysia* Vol 59 No 4 October 2004:502-511.
20. Dosumu EA. Survey of knowledge, attitudes, and practices regarding tuberculosis among general and private medical practitioners in Nigeria. *African Journal of Respiratory Medicine* 2008;17-9.