



Pulmonary Medicine

ASSESSMENT OF TUBERCULOSIS AND DOTS RELATED ATTITUDE KNOWLEDGE AND PRACTICES AMONG INTERNS IN TERTIARY CARE HOSPITAL IN JAMMU.

Aakriti Khajuria	Medical Officer Tuberculosis control, Dots centre Acharya Shri Chander College of Medical Sciences and Hospital.
Sunny Babber*	Associate professor, PSM, Acharya Shri Chander College of Medical sciences and Hospital. *Corresponding Author
Ravinder K Gupta	Prof & HOD, Post graduate department of Paediatrics, Acharya Shri Chander College of Medical Sciences and Hospital
Vinu Jamwal	Prof, Post graduate department of medicine, Acharya Shri Chander College of Medical Sciences and Hospital

ABSTRACT **Background**= Tuberculosis (TB) is a global health issue and India has the world's highest tuberculosis burden. There are still challenges in field of diagnosis, treatment strategy, social stigma and follow up of TB patients and for this World Health Organisation (WHO) emphasises on wider sensitization of medical graduates towards National Tuberculosis Elimination Programme (NTEP) and Directly Observed Treatment Short Course (DOTS) for the treatment of TB patients. **Objective**= To access TB and DOTS related Attitude, Knowledge and Practices among interns in tertiary care hospital. **Method**= A cross-sectional study was conducted among MBBS Interns for a period of one year from 15th March'22 to 15th march' 23 in ASCOMS & Hospital using a pre tested, structured questionnaire which was based on WHO Knowledge, Attitude and Practice (KAP) Survey and was distributed to all the interns by the principal investigator (Medical Officer I/C DOTS Centre ASCOMS). Out of the total 100 interns, 92 interns responded back with answers. Percentages of data collected were analysed. **Result**= Out of the 92 interns, majority of them had average knowledge with a mean score of 77.95 ± 7.23 where maximum interns (98.91%) had correct knowledge about etiology of tb while only 56.52% of interns had right knowledge regarding selecting the candidates for tuberculosis prophylactic therapy (TPT). The mean Attitude score was 84.12 ± 10.32 with all interns (100%) having the correct attitude towards the fact that DOTS effectively treats TB whereas only 66.30% had the right attitude that if drug sensitive case not treated can become a multi drug resistant (MDR) case. The mean score of the practices was 71.3 ± 16.99 with all interns (100%) following practice of wearing N 95 mask while examining presumptive TB case while only 53.3% interns followed the right practice of contact tracing. **Conclusion**= This study concludes that majority of interns had average overall knowledge of TB, where as an acceptable attitude towards TB and few interns followed adequate practices. However, some interns lacked knowledge regarding TB prophylactic therapy, MDR cases and contact tracing. Therefore, more effort should be made to enhance knowledge and attitude by conducting wider sensitization sessions on NTEP during the MBBS course and improve practices by conducting more training for interns in DOTS centre.

KEYWORDS : Tuberculosis, Attitude, Knowledge, Practices and Hospital

INTRODUCTION

Tuberculosis remains a public health challenge globally¹. As per Global TB Report 2022, an estimated 10.6 million incident cases of TB were reported in 2021². According to the INDIA TB REPORT 2023 by Ministry of Health and Family Welfare Government of India, India alone accounts for 28 % of the global TB burden³. As per Central TB division, India, year 2021 witnessed a 19% increase from the previous year in TB patients' notification—the total number of incident TB patients (new and relapse) notified during 2021 were 19,33,381 as opposed to that of 16,28,161 in 2020⁴. Whereas India is trying to come out of the havoc created by Covid -19, NTEP (National tuberculosis elimination) under the guiding light of National Strategic Plan ,NSP (2017-2025) has accelerated its pace towards ending TB by 2025.

In this plan, government of India has highlighted the importance of medical colleges in eliminating TB. A large of patients with TB is managed at medical colleges across the country. Medical colleges are the main centres not only from the TB control point of view but all medical colleges, in both the government and private sectors are recognized to occupy a key position under the Tb mukt bharat abhiyan in various modalities like sputum testing of all the admitted, (in ward) patients , contact tracing of the positive patients, identifying candidates for TB preventive therapy (TPT), mandatory screening in patients of diabetes, HIV Aids , dialysis patients , and vulnerable population with a unique potential for involvement with the NTEP and DOTS daily regimen⁵. In addition, all medical colleges have the necessary diagnostic facilities for extra-pulmonary TB (EPTB), bi-directional screening , human immunodeficiency virus (HIV)-TB co infection, multidrug-resistant TB and extensively drug resistant TB (M/XDR-TB). And the most important of all, medical colleges serve as a hub for research in TB⁶. In order to widen access and to improve the quality of TB services, more and more involvement of medical colleges and their hospitals is of paramount importance because being tertiary care medical centres, large numbers of patients seek care from the medical colleges. In addition, the role of medical college faculty in imparting knowledge, skills and shaping the attitude of medical

students is also very important⁷.

World Health Organisation (WHO) emphasises on wider sensitization of medical graduates towards National Tuberculosis Elimination Programme (NTEP) and Directly Observed Treatment Short Course (DOTS) for the treatment of TB patients⁸. To access the knowledge, attitude and practices, WHO has also made a KAP survey questionnaire⁹.

AIM OF THE STUDY

This study aims to investigate intern's knowledge, attitude and practices (KAP) on TB, as given by WHO KAP survey. This information will help us to make pre-and postgraduate teaching and training better and thus making future young doctors more efficient in TB control programme.

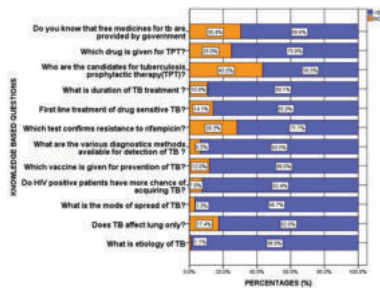
METHOD AND MATERIALS

The study was conducted in the designated microscopy (DMC) cum DOTS centre ASCOMS & Hospital after getting approval from institutional ethical committee with reference no. ASCOMS/ IEC/ RP&T/ 2023 / 30 Dated 18.03.23. A cross-sectional study was conducted among MBBS Interns for a period of one year from 15th March'22 to 15th march' 23 in ASCOMS & Hospital using a pre tested and pre structured questionnaire which was based on WHO Knowledge, Attitude and Practice (KAP) Survey and was distributed to all the interns by the principal investigator (Medical Officer I/C DOTS Centre ASCOMS). The questionnaire contained a total of 26 multiple choice questions where 12 questions were related to knowledge, 8 related to attitudes, and 6 were related to practices. Out of the total 100 interns who are provided with questionnaire, 92 interns responded back with answers. The quantitative data was expressed in terms of percentages and proportions and their graphical representation was done by IBM SPSS 21 and quantitative data was expressed in terms of mean and standard deviation.

RESULTS

Table 1: Knowledge Based Questions

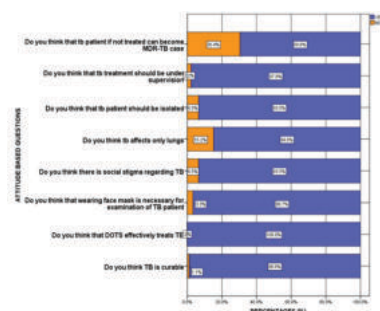
Knowledge based questions	Yes	%	No	%
What is etiology of TB	91	98.91	1	1.09
Does TB affect lung only?	76	82.61	16	17.39
What is the mode of spread of TB?	89	96.74	3	3.26
Do HIV positive patients have more chance of acquiring TB?	85	92.39	7	7.61
Which vaccine is given for prevention of TB?	81	88.04	11	11.96
What are the various diagnostics methods available for detection of TB ?	86	93.48	6	6.52
Which test confirms resistance to Rifampicin?	66	71.74	26	28.26
First line treatment of drug sensitive TB?	79	85.87	13	14.13
What is duration of TB treatment ?	82	89.13	10	10.87
Who are the candidates for tuberculosis prophylactic therapy(TPT)?	52	56.52	40	43.48
Which drug is given for TPT?	69	75	23	25
Do you know that free medicines for TB are provided by government	64	69.57	28	30.43

**Graph 1: Knowledge**

Out of the 92 interns, majority of them had average knowledge with a mean score of 77.95 ± 7.23 where maximum no. of interns (98.91%) had correct knowledge about etiology of tb while only 56.52% of interns had right knowledge regarding selecting the candidates for tuberculosis prophylactic therapy (TPT) as shown in GRAPH 1.

Table 2: Attitude Based Questions

Attitude based questions	Yes	%	No	%
Do you think TB is curable	91	98.91	1	1.09
Do you think that DOTS effectively treats TB	92	100	0	0
Do you think that wearing face mask is necessary for examination of TB patient	89	96.74	3	3.26
Do you think there is social stigma regarding TB	86	93.48	6	6.52
Do you think tb affects only lungs	78	84.78	14	15.22
Do you think that tb patient should be isolated	86	93.48	6	6.52
Do you think that tb treatment should be under supervision	90	97.83	1	2.17
Do you think that tb patient if not treated can become MDR-TB case	61	69.57	17	30.43

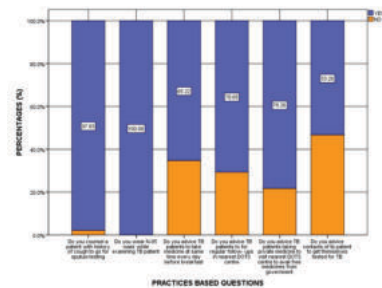
**Graph 2: Attitude**

The mean Attitude score was 84.12 ± 10.32 with all interns (100%) having the correct attitude towards the fact that DOTS effectively treats tb whereas only 66.30% had the right attitude that if drug

sensitive case not treated can become a multi drug resistant (MDR) case as shown in GRAPH 2.

Table 3: Practices Based Questions

Practices based questions	Yes	%	No	%
Do you counsel a patient with history of cough to go for sputum testing	90	97.83	2	2.17
Do you wear N-95 mask while examining TB patient	92	100	0	0
Do you advice TB patients to take medicine at same time every day before breakfast	60	65.22	32	34.78
Do you advice TB patients to for regular follow- ups in nearest DOTS centre	65	70.65	27	29.35
Do you advice TB patients taking private medicine to visit nearest DOTS centre to avail free medicines from government	72	78.26	20	21.74
Do you advice contacts of TB patient to get themselves tested for TB	49	53.26	43	46.74

**Graph 3: Practices**

The mean score of the practices was 71.3 ± 16.99 with all interns (100%) following practice of wearing N 95 mask while examining presumptive tb case while only 53.3% interns followed the right practice of contact tracing as shown in GRAPH 3.

DISCUSSION

Knowledge Regarding TB

Our study shows that majority of interns had average knowledge about NTEP and DOTS where maximum no. of interns (98.91%) had correct knowledge about etiology of TB while only 56.52% of interns had right knowledge regarding selecting the candidates for tuberculosis prophylactic therapy (TPT). In India, similar studies were carried out by Laiby et al ¹⁰, in Mumbai where 60% of the participants had good knowledge regarding TB. In contrast In India some studies show very less knowledge among interns like in a study done in Haryana by Mehta D ¹¹ revealed gross inadequacies in the knowledge of tuberculosis among medical interns and postgraduate medical students. In our study, 98.9% interns knew about etiology of TB. In considering global data, Similar results were shown in a study conducted in Nepal by Berg-Johnsen A ⁸ showing good knowledge among interns whereas a study from Pakistan shows poor knowledge among medical interns in that country ¹²

Attitude Regarding TB

In our study, 100% interns were having the correct attitude towards the fact that DOTS effectively treats TB whereas only 66.30% had the right attitude that if drug sensitive case not treated can become a multi drug resistant (MDR) case. This is in sync with other studies done in India by Bogam RR ¹³ and Acharya PR ¹⁴ which shows satisfactory attitude among interns but also highlighted that there must be establishment of strict and dedicated DOTS clinic in all tertiary hospitals in which medical students must rotate during the course of their studies and practically participate in all its activities, including performance of ZN staining for sputum smear microscopy.

Again when we consider global data a study done in Istanbul by Kilicaslan Z. et. ¹⁵ shows that gross lacunae have been observed in the attitude of future budding doctors towards Tb. Similar findings were seen by a study by Olakunle OS et.al. ¹⁶ Nigeria which shows that there is an urgent need for incorporation of National TB guideline into existing undergraduate medical education curriculum as well as there must be compulsory rotational internship in DOTS clinic.

Practices Regarding TB

In the present study, it showed that all interns (100 %) were following practice of wearing N 95 mask while examining presumptive Tb case while only 53.3% interns followed the right practice of contact tracing. In India, a study done by Sangma BK¹⁷ in Imphal also shows 100% interns using masks while practicing but it show very less interns doing contact tracing of the positive patients. Comparing studies regarding practices among different countries, a study by Emili J.¹⁸, done in Canada showed good practices related to tb among interns where as a study by Laurenti P. et. al¹⁹ conducted in Rome shows that interns had followed average practices and must be more taught about follow up and contact tracing.

CONCLUSION

This study concludes that majority of interns had average overall knowledge of TB, where as an acceptable attitude towards TB and few interns followed adequate practices. However, some interns despite such a successful program, lacked knowledge regarding TB prophylactic therapy, MDR cases and contact tracing. As a country which is heavily burdened with tb, India cannot afford to be negligent in providing proper medical education and exposure on tuberculosis and training of interns for its management Therefore, more effort should be made to enhance knowledge and attitude by conducting wider sensitization sessions on NTEP during the MBBS course and improve practices by conducting more trainings for interns in DOTS centre. Also studies like these are necessary to meet the future requirements for well-educated medical doctors with a good attitude towards TB patients.

REFERENCES

1. Park K. Epidemiology of Communicable disease. In: Park K (ed). Parks Textbook of Preventive and Social Medicine. 27th Edn. Jabalpur : Bhanot Publications; 2023.p.798-806.
2. World Health Organization. Global TB report 2023. Geneva: WHO; 2022
3. Ministry of Health and Family Welfare, Government of India. INDIA TB REPORT 2023.
4. Indian Council of Medical Research. Central TB Division, Ministry of Health and Family Welfare, Government of India, National TB prevalence survey in India. Available
5. Surendra K. Sharma et.al. Contribution of medical colleges to tuberculosis control in India under the Revised National Tuberculosis Control Programme: Lessons learnt & challenges ahead. Indian J Med Res 2013; 137: 283-294.
6. Kokiwar PR et.al. Awareness about new guidelines of national tuberculosis elimination program among medical college faculty. MRIMS J Health Sci 2021; 9:72-76.
7. Janani et.al. A Cross-sectional Study on Knowledge, Attitude, and Practice Regarding Notification of Tuberculosis Patients by Private Practitioners of Urban Chennai, Indian journal of clinical and diagnostic research 2022; 16:14-18.
8. Berg-Johnsen A, Hadem SO, Tamrakar D, Harstad I. A questionnaire of knowledge, attitude and practices on tuberculosis among medical interns in Nepal. J Clin Tuberc Other Mycobact Dis 2020; 8;20:100173.
9. World Health Organization & Stop TB Partnership. (2008). Advocacy, communication and social mobilization for TB control: a guide to developing knowledge, attitude and practice surveys. World Health Organization.
10. Laiby R, Debjani P, Prashant B. Knowledge, attitude and practices towards tuberculosis: Study amongst urban adults visiting the community health center. Int J Med Public Health. 2022;12(1):28-32.
11. Mehta D, Bassi R, Singh M, Mehta C. To study the knowledge about tuberculosis management and national tuberculosis program among medical students and aspiring doctors in a high tubercular endemic country. Ann Trop Med Public Health 2012;5:206-8.
12. Khan JA, Zahid S, Khan R, Hussain SF, Rizvi N, Rab A, et al. Medical interns knowledge of TB in Pakistan. Trop Doct 2005;35:144-7
13. Bogam RR. Awareness of medical interns regarding recent guidelines of revised national tuberculosis control programme of India. Int J Health Sci Res. 2014;4(1):160-164. 11.
14. Acharya PR, D'Souza M, Sahoo RC. Tuberculosis knowledge and attitude in aspiring doctors and nurses – Is it time for our TB teaching methods to evolve? Indian Journal of Tuberculosis 2017, 64(1):20-25.
15. Kilicaslan Z., Kiyan E., Erkan F., Gurgan M., Aydemir N., Arseven O. Evaluation of undergraduate training on tuberculosis at Istanbul Medical School. Int J Tuberc Lung Dis. 2003;7(2):159–164.
16. Olakunle OS, Oladimeji, O, Olalekan, A W, Olugbenga-Bello, A, Akinleye, C, Oluwatoyin, O A. Knowledge of tuberculosis management using directly observed treatment short course therapy among final year medical students in South Western Noigeria. PanAfrican Med J. 2014;18.
17. Sangma BK, Shivalingaiah B, Singh WA, Renthlei L, Sangma R. Assessment of Knowledge on management of Pulmonary Tuberculosis under RNTCP among graduating Interns and Postgraduate students in RIMS Imphal. IOSR Journal of Nursing and Health Science 2017;6(3):07-11.
18. Emili J., Norman G.R., Upshur R.E.G., Scott F., John K.R., Schmuck M.L. Knowledge and practices regarding tuberculosis: a survey of final-year medical students from Canada, India and Uganda. Med Educ. 2001;35:530–536.
19. Laurenti P., Federico B., Raponi M., Furia G., Ricciardi W., Damiani G. Knowledge, experiences and attitudes of medical students in Rome about tuberculosis. Med Sci Monit. 2013;865–74