

Original Article

KNOWLEDGE ABOUT TUBERCULOSIS AND MULTI-DRUG RESISTANT TUBERCULOSIS AMONG INTERNS

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ABSTRACT

Background: Tuberculosis (TB) is an ancient disease with new threats of Multi-drug resistant (MDR-TB) and Extensively drug resistant tuberculosis (XDR-TB). To treat and prevent this every health care personnel should have a thorough knowledge of it. Internship is a crucial period when knowledge is applied practically.**Methodology:** This was a Cross-sectional study done on 85 interns in the tertiary medical college of Vasantnao Naik Government Medical College using proforma having questionnaire on TB and MDR-TB.**Results:** Knowledge of tuberculosis, clinical features of TB, diagnosis and management was more than 80% in interns; knowledge on causes and diagnostic tests of MDR-TB was present in less than 40% of the interns.**Conclusion:** Knowledge of interns about MDR-TB and XDR-TB was significantly lower as compared to TB.**Key words:** Interns, Tuberculosis, MDR-TB, XDR-TB, DOTS, RNTCP.

INTRODUCTION

Tuberculosis is an ancient global public health problem. In India despite of persistent government efforts in the form of Revised National Anti-Tuberculosis Programme (RNTCP) and Directly Observed Treatment Strategy (DOTS), TB still remains a major cause of mortality and morbidity in India. Multi-Drug Resistant TB and Extensively Drug Resistant TB are other threats to present anti-TB strategies. Globally, 3.7% of new cases and 20% of previously treated cases are estimated to have MDR-TB¹. Data from studies conducted by TRC Chennai and NTI Bangalore are indicative of a primary drug resistance level of 1.7 to 2.2% and 12 to 13% in retreatment cases, in some places upto 17.2% cases^{2, 3}. Problem of MDR-TB is largely attributed to inadequate treatment of TB either by doctor or patient. For correct prescription, correct knowledge of disease, treatment as well as complications is required. Internship is a crucial period in the curriculum of a doctor, where a student acquires new skills and applies his theoretical knowledge into the practice. Hence the present study was undertaken to assess the knowledge of interns about tuberculosis and MDR-TB.

MATERIALS AND METHODS

The present cross-sectional study was done in the tertiary medical college of Vasantnao Naik government medical college. A total of 85 interns who were willing to participate were included in the study. Approval from Institutional ethical committee was taken. All interns were requested to gather at PSM department and explained about the study. They were provided with the questionnaire and made to return after filling it in front of the author. Maximum time allotted was half an hour. Pre-designed survey proforma was used consisting questions regarding knowledge of Tuberculosis and MDR-TB. Questionnaire included total 29 questions which considered causation, clinical features, diagnosis, and treatment facilities under national programme of RNTCP. All the questions had single response. Don't know option was provided if anyone did not know the answer. The questionnaire was pre-tested on 10 interns, modified and necessary changes made accordingly. RNTCP guidelines of 2013² were considered as standard. Results were analyzed as correct response, incorrect response and don't know response. Statistical tests included percentages and chi-square test.

RESULTS

As shown in table 1, knowledge of tuberculosis, clinical features of TB, diagnosis and management was more than 80% in interns. While the knowledge about cause, route of transmission and clinical features were more than 90%. TB Procedure for collection of sputum was not known to 21.18% of the interns. At the same

time the treatment options and drugs available was known to more than 95% of interns, correct duration in months and schedule of giving drugs on alternate days was not known to 17.65% and 34.12% of the interns. Consequences of irregular treatment of TB were also known to around 94% of interns, but the answers were restricted to failure or resistance but not specifically MDR-TB or XDR-TB.

Table 1: knowledge of interns about Tuberculosis (N=85)

Question	Correct response	Incorrect response	Don't know
Cause of TB	84 (98.82)	1 (2.35)	0
Route of transmission	82 (96.47)	3 (3.53)	0
Common symptoms of pulmonary TB	79 (92.94)	6 (7.06)	0
Sites are affected by TB	72 (84.70)	13 (15.30)	0
Diagnostic test for TB	83 (97.65)	2 (2.35)	0
Samples required for TB	75 (88.23)	10 (11.77)	0
Procedure of Collection sputum	67 (78.82)	5 (5.88)	13 (15.30)
Available treatment for TB	83 (97.65)	2 (2.35)	0
Categories of treatment	76 (89.41)	9 (10.59)	0
First line drugs	84 (98.82)	1 (1.18)	0
Total duration of TB treatment	70 (82.35)	15 (17.65)	0
Schedule of anti-TB drugs	56 (65.88)	29 (34.12)	0
Sideeffects of drugs	83 (97.65)	2 (2.35)	0
DOTS	85 (100)	0	0
Consequences of irregular treatment of TB	80 (94.12)	5 (5.88)	0

Table 2: knowledge of interns about MDR-TB (N=85)

Question	Correct response	Incorrect response	Don't know
What is MDR-TB?	84 (98.82)	1(1.18)	0
Define MDR-TB	82 (96.47)	3(3.53)	0
Prevalence of MDR-TB in India	45 (52.94)	5 (5.88)	35 (41.18)
Causes of MDR-TB	56 (65.88)	29 (34.12)	0
primary and secondary resistance	23 (27.06)	6 (7.06)	56 (65.88)
Diagnostic test for MDR-TB	34 (40)	11 (12.94)	40 (47.06)
Category of MDR-TB	45 (52.94)	34 (40.00)	6 (7.06)
Second line drugs for MDR-TB	15 (17.65)	65 (76.47)	5(5.88)
Total duration of MDR-TB	45 (52.94)	37 (43.53)	3 (3.53)
Consequences of irregular treatment	59 (69.41)	26 (30.59)	0
DOTS-PLUS	28 (32.94)	50 (67.06)	7 (8.24)
NRL and IRL	19 (22.36)	5 (5.88)	61(71.76)
Facilities available at NRL and IRL	19 (22.36)	5 (5.88)	61(71.76)
XDR-TB	5(5.88)	7 (8.24)	73 (85.88)

Table 3: Comparison of Knowledge of Interns for Tuberculosis and MDR-TB

	Tuberculosis	MDR-TB	P value
Knowledge of Causation	84 (98.8)	56 (65.9)	<0.001
Clinical features	79 (92.9)	23 (27.1)	<0.001
Categories	76 (89.4)	45 (52.9)	<0.001
Diagnosis	83 (97.6)	34 (4)	<0.001
Treatment	77 (90.6)	30 (35.3)	<0.001
Consequences	80 (94.1)	59 (69.4)	<0.001
RNTCP	84 (98.8)	22 (25.5)	<0.001

Figure in paranthesis indicate percentage

Table 2 shows knowledge of interns about multi-drug resistant TB which was very less. While definition of MDR-TB was known to 96% of interns, its causes were not known to 34.12% of the interns. Diagnostic test

available for MDR-TB was known to only 40% of the patients. All the second line drugs were known to only 17.65% of the patients. Treatment options and infrastructure for diagnosis under RNTCP for MDR-TB was correctly known to only 32.94% and 22.36% of interns respectively. Only 5.88% of the interns knew definition of XDR-TB.

From this table, the difference between knowledge of causation, clinical features, categories, diagnosis, treatment and RNTCP between Tuberculosis and MDR-TB was highly significant.

DISCUSSION

It is very important to have thorough knowledge of the disease when one is intended to treat it. Internship is a very crucial period when theoretical knowledge

has to be applied practically. TB is an ancient infectious disease with new threat of MDR-TB and XDR-TB. MDR-TB cases, emerged in India in 2006, but today representing over 20% of the global burden¹. TB is always amenable to change in the diagnostic or treatment criteria. In this study it was found that though the correct knowledge of Tuberculosis was present in about 80% of the interns, it was present in less than 40% for MDR-TB. More than 95% of the interns exactly knew the definition of MDR-TB, but gap in the knowledge about diagnosis and treatment was very vast. Many interns were aware of previous criteria and recent change in the criteria was known to fewer interns, because they are not frequently updated in books.

Other researchers had done study on MBBS students, nursing staff or paramedical staff. In a study by Kiefer E et al⁴, only half of medical professionals identified the correct method of diagnosis as sputum. In a study by Kutare A et al⁵, 38.16% correctly stated cough for three weeks or more to be the cardinal symptom of pulmonary tuberculosis and 71.01% responded sputum AFB examination as the best tool for diagnosing pulmonary TB. This was similar to the study by Khan JA et al⁶. In a study by Rajpal S et al⁷ less than 4.2% interns had complete knowledge of all modes of TB transmission. In a study by Giri PA et al⁸, knowledge about RNTCP was present in 63.9% of the students, but knowledge about MDR-TB was present in 39.5% of the students. In our study 96.47% of the interns had correctly defined MDR-TB, while Kutare A et al⁵, 75.36% correctly mentioned the definition of MDR TB however only 1.45% interns had complete knowledge of XDR-TB. Busari O et al⁹ in a study in sub-Saharan Africa found only 27.1% interns could correctly define MDR-TB.

RNTCP is national health programme, conducted horizontally. It was also found that though interns used to perform investigations, invasive activity in TB postings, they generally don't feel need to understand the exact procedure follow while providing DOTS to patients. They are generally unaware of registration form, transfer in, transfer out form etc. Thus treatment of the patients according to RNTCP guidelines will not be followed in their future practice, increasing the burden of patients with irregular treatment. In a study among private practitioners in Delhi, 89.5% recommended chest X-ray and only 12% advised sputum

examination for diagnosis of pulmonary TB¹⁰. This study has not taken into account the practices of interns in OPD and wards.

CONCLUSION

Though correct knowledge of Tuberculosis was fair in interns, knowledge about causation, clinical features and diagnosis of MDR-TB was limited. Correct diagnosis and treatment of MDR-TB is a need of time. Moreover some of the interns were following old criteria for diagnosis and treatment. Sensitization of interns about RNTCP, MDR-TB and XDR-TB from time to time is important.

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