pISSN: 0976 3325 eISSN: 2229 6816

ORIGINAL ARTICLE

KNOWLEDGE OF TUBERCULOSIS AMONG GENERAL PRACTITIONERS IN SURAT CITY

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ABSTRACT

Background: India's Revised National Tuberculosis Control Programme (RNTCP) has made significant progress in TB control through countrywide DOTS implementation. This also includes efforts to engage the private medical sector in TB care and control through various published schemes.
Objective: To assess the knowledge of tuberculosis among the general practitioners in Surat.
Methodology: It was cross-sectional conducted among general practitioner of Surat city by interview using a pretested semi-structured questionnaire during March-April 2010.
Results: Out of the 28 participating general practitioners, only 8 (28.6%) claimed to be using the drugs of alternative medicine for TB treatment. 64.3%, 25% and 10% believed that TB should be diagnosed by sputum microscopy, X-ray findings and sputum culture respectively.
Conclusion: Health policy managers and DOTS implementers should encourage all doctors, particularly private sector doctors, to receive RNTCP training and follow DOTS methodology. Improvement is needed in RNTCP training, and emphasis needs to be given to correct diagnosis, management and follow-up of TB patients.

Keywords: tuberculosis, knowledge, general practitioners, linear regression analysis

INTRODUCTION

Tuberculosis, an infectious disease caused by Mycobacterium tuberculosis is a worldwide, chronic communicable disease with varied clinical presentation, host response, chemotherapeutic response, etiology, and social implications[1]. Detection of smear positive TB cases by direct microscopy is a key element of the DOTS (Direct Observed Treatment – Short course) strategy[2]. The success of this strategy depends on the ability of the health care system to identify and follow up TB suspects [3]. Health system's inability to diagnose and treat TB has been shown by many studies, both in low and high incidence countries[4-8]. This requires global attention. India's Revised National Tuberculosis Control Programme (RNTCP) has made significant progress in TB control over the last decade through countrywide DOTS implementation [9]. This also includes efforts to engage the private medical sector in TB care and control through various published schemes [10]. Due to its mode of transfer through air and its fast spread, most efficient method of its transmission prevention is identification (through case detection, diagnosis) and cure of the most potent source of infection – pulmonary tuberculosis patients excreting tubercle bacilli[11]. The capacity of the programe is indicated by

maintenance of patients on treatment, obtaining smear sample, and elimination of source of infection, and it is an early surrogate of treatment outcome indicator [12]. Modern Anti-TB treatment can cure virtually all patients of tuberculosis provided it is taken regularly for the prescribed duration which is usually for six months. However, due to poor compliance due to several factors like ignorance, poverty, unemployment, illiteracy, a significant size of subgroups of patients are not cured, causing spread of the disease in the community, increase in incidence of MDR-tb, increase in case-fatality rate, besides increasing mortality, prevalence, and transmission [13]. So to achieve this idealistic goal of stopping tuberculosis, a breakthrough strategy known as DOTS (Directly Observed Treatment Short course) was adopted which is a comprehensive strategy including diagnosis, improved drug supply and programme monitoring. (1). Its high prevalence along with pandemic of HIV/ AIDS, MDR Tb and XDR Tb, a fire fighting strategy is required. It is very common in slum areas where overcrowding, low hygienic condition and malnutrion are highly prevalent. This study is conducted to know about awareness of the tuberculosis in general practitioner in Surat.

OBJECTIVES

To assess the knowledge of tuberculosis among the general practitioners in Surat

METHODOLOGY

It was cross sectional conducted among general practitioner of Surat city during March-April 2010. General practitioners were interviewed using a semi structured questionnaire. The survey was conducted by intern doctors in Katargam, Adajan & Umarpada area between March to April 2010.

Data is compiled in Microsoft excel & analyzed using epi-info software, SPSS package.

RESULTS

Out of total participating physicians maximum had over five years experience in clinical practice and the median number of TB patients seen per month by a practitioner was eight. Only 8 of the 28 respondents claimed to be using drugs from alternative systems of medicine in the treatment of TB in addition to the modern drugs. 20 of responding practitioners said they referred their TB patients to DOTS centre for treatment. Table 1 demonstrates a summary of other details of the participating private practitioners. In response to the question regarding route of infection, all replied correctly. Regarding method of diagnosis of pulmonary TB, 7 out of 28 replied it is done by X ray, 18 out of 28 considered sputum examination as the right method, while 3 out of 28 told sputum culture as the right method.

Table 1: Demographics and practice details

	Frequency
Route TB spread	
Respiratory	28
Contact	0
Oral	0
Vector born	0
Most common method used for diagnosis of pulmonary TB	
X ray	7
Sputum microscope	18
Blood examination	0
Sputum culture	3
How will you start treatment of Pulmonary TB	
Start antibiotic & symptomatic treatment	2
Categorized patient & put on DOTS	6
Referred the patient to DOTS centre	20

In response to a question regarding the choice of the best test to confirm the diagnosis of pulmonary TB, 18 (64.28%) considered sputum microscopy as the best test while 7 (25%) considered chest X- ray as the best method.

Table 2: General characteristics of the GPs participating in the study (n= 154)

Characteristic	Observations
Age in years (mean)	45.2
Professional Experience in years (mean)	18.9
Male (%)	19
Found/followed up TB case last year (%)	10.4
Attended TB training course during the last 5 years (%)	11.0

Table 2 shows general characteristics of GPs in the study. The average age of the GPs was 45.2 years with an average experience of 18.9 years. A private GP was 10.4% diagnosed or followed up a TB case in the last year. Less than 11% of GPs had attended TB training courses during the last 5 years.

Table 3: **Numbers and percentages of GPs who considered TB as one of the three possible diagnoses in any of the 5 clinical vignettes describing TB-cases**

Clinical Vignette	Private (%)	P-Value
TB case 1 (5 weeks cough, loss of weight)	17(60.4%)	0.002
TB case 2 (HIV with prolonged cough)	22 (77.3%)	0.526
TB case 3 (loss of weight, night sweats)	20(72.2%)	0.003
TB case 4 (cough with heamoptysis)	19 (70.8%)	0.382
TB case 5 (Cough, crackles at the apex)	22 (77.3%)	0.001
Pneumonia	1 (5.5%)	0.001
COPD	2 (9.0%)	0.420

Furthermore, for cases of COPD, more than 50% of all GPs were not able to mention the correct diagnosis with no significant difference with private GPs. Pneumonia was correctly diagnosed by more than 5.5% of private GPs (no statistically significant difference was observed).

Table 4: **Median and Interquartile range of TB suspicion and TB knowledge Scores**

Score	Private	P-value
TB Suspicion Score (maximum 15)	10.0(7.0–12.0)	0.001
TB Knowledge Score (maximum 20)	7.0(5.0–9.0)	0.001
Diagnosis (max 5)	2.0(1.0–3.0)	0.037
Treatment (max 8)	3.0(2.0–5.0)	0.001
Follow up (max 4)	1.0(1.0–1.0)	0.199
Contacts screening (max 3)	1.0 (0.0–1.0)	0.041

Tables 4 present the results of simple and multiple robust linear regressions, respectively, with TB suspicion and TB knowledge scores as dependent variables and general characteristics of GPs as independent. "sector of work" (private) and "finding or following a TB case last year" were related to TB suspicion score using simple robust regression analysis. However, in the multiple analysis, sector of work was the only variable associated with TB suspicion score with private GPs scoring 1.6 points . In simple analysis, sector of work, nationality, attending TB training course and "finding or following a TB case last year" were independently related to TB knowledge score. GPs having attended TB training course in the last 5 years scored 2 points more than those who did not 95%CI; (0.71, 3.24).

Table 5: **Estimated regression coefficients, with 95% confidence intervals in brackets, in simple robust linear regression analyses with TB suspicion score and mean TB knowledge score as dependent variables (95% CI)**

Factor Independent variable		TB Suspicion Score Dependent variable	TB Knowledge Score Dependent variable
Gender	Female	Ref.	Ref.
	Male	0.30(-0.62, 1.22)	-0.08(-0.94, 0.77)
Duration of Practice	≤5 yrs	Ref.	Ref.
	>5 yrs	-0.32(-1.60, 0.98)	-0.84(-1.94, .26)
Attended TB training course during last 5 yrs	No	Ref.	Ref.
	Yes	0.67(-0.64, 1.98)	1.69(0.46, 2.91)*
Found/followed up a TB case last year	No	Ref.	Ref.
	Yes	1.36(0.39, 2.32)*	1.74(0.85, 2.62)*
TB Knowledge score		0.17(0.03–0.32)*	Not Applicable

For binary independent variables the coefficients are estimates of the difference between the means at the two levels.

* Statistically Significant.(p-value is less than 0.05)

DISCUSSION

Complete cure from TB requires compliance not only of patients but also of physicians. Although their knowledge regarding the transmission of TB is adequate but regarding diagnosis only 64.28% considered sputum smear examination as the best method for diagnosis of pulmonary TB. So sputum examination as the right method for diagnosis and treatment monitoring needs emphasis. This poor management not only compromises patient outcome but also exposes other family members to unnecessary risk. This inappropriate regimen would increase the prevalence of MDR-TB in a community which is already overburdened by TB.

General practitioners knowledge may have an impact on their patients' health. An important implication of our results is that there can be delays in diagnosis of TB cases, especially among those attending private clinics or hospitals[8]. Therefore, there is a need to evaluate if there is a delay in diagnosis among TB patients as this may hinder the efforts to control TB. A well designed health care seeking behavior study for TB patients and TB suspects would help to identify factors related to both patients and health system delay.

Private GPs should be actively engaged in TB control activities in a strategy of "Private Public Mix (PPM) for TB control in Surat". Such a strategy should explicitly highlight the rules for private sector in TB control, through implementing some of the practical tools recommended by the WHO, e.g. referral and notification as these are believed to increase case detection [14].

CONCLUSION

Health policy managers and DOTS implementers should encourage all doctors, particularly private sector doctors, to receive RNTCP training and follow DOTS methodology. Improvement is needed in RNTCP training, and emphasis needs to be given to correct diagnosis, management and follow-up of TB patients.

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