Assessment of tuberculosis care practice among private practitioners in Central Karnataka

Satish Ghatage[1], Anurupa M S[2], Latha S[3], Hamsaveni G[4]

[1,2] Department of Community Medicine, JJM Medical College, Davangere.Karnataka, India

[3] Department of Pharmacology, Shri B M Patil Medical College, Hospital and Research Center, Vijayapura. Karnataka, India

[4] Department of Community Medicine, BMCH, Chitradurga. Karnataka, India

Abstract

Background: In 2021, one third of the notified TB patients in the country were contributed by the private sector. But evidence supports nearly 50% of TB patients first seek care from a private practitioner (PP).

Aims/objectives: The study was carried out to understand the TB care practices among the private practitioners based on Standards of TB Care in India (STCI) in Davangere city.

Methodology: Cross-sectional study was conducted among the 365 qualified, registered private practitioners of Davangere city who have treated at least one presumptive TB case in the past year. Study was conducted from Jan 2017 to June 2018

Results: PPs considered weight loss (80.5%) and hemoptysis (70.1%), followed by cough and fever as a major symptom to screen for TB. 87.4% of them used Chest Xray as diagnostic tool, followed by Mantoux test and Sputum smear examination 83% of TB cases diagnosed were notified but the public health actions like contact tracing, preventive measures among the household contacts were compromised.

Conclusion: This study identifies the need to sensitize PPs about the services available in the government sector and the updates in the TB program, which could help in meaningful partnership towards efforts of TB elimination in the country.

Key words: Tuberculosis, Private practitioner, Diagnosis, Elimination

Introduction

India is the highest tuberculosis (TB) burden country in the world accounting for almost one- fourth of the global cases and deaths as per the global TB report 2021[1]. India notifies around 159cases/ lakh population, which turns to around 24lakhs notified patients and 0.96lakh people died due to TB in 2019[1]. Even though the Government of India provides free healthcare services through Nation tuberculosis Elimination Program (NTEP), Out of the total notification in 2019, 28% of the TB cases are from private sector[2]. In India, 34%to 57% of the tuberculosis patients are inappropriately diagnosed and treated[3-6]. Poor diagnosis and treatment of TB is the leading cause for acquired drug resistant TB.

There are evidence suggesting that private practitioners in India are not equipped with sufficient knowledge to carry out proper management of TB patients[7-9].No efforts have been taken to assess the TB care practices among private practitioners in Davangere city. This study was undertaken to address this issue. This would benefit the program managers, policy makers and care providers in preparing policies and planning of interventions to strengthen the current guidelines in the country.

Methodology

A Cross - sectional study was conducted among the qualified, registered private practitioners (specialists, allopathic and non-allopathic general practitioners) of Davangere city in central Karnataka, who have treated at least one presumptive TB case in past one year. The study was conducted for 18 months from Jan 2017 to June 2018.

The list of medical establishments in the city registered under Karnataka Private Medical Establishment (KPME) act was obtained from the District Health office of the district. According to KPME act, there

Address for Correspondence:

Dr. Satish Ghatage

Department of Community Medicine

JJM Medical College, Davangere. Karnataka, India

Email: satishghatage@gmail.com

are386 private hospitals (clinics, polyclinics and nursing homes) in the city. Totally, 464 doctors are practicing in these hospitals. 365 private practitioners (80 physicians and pulmonologists, 194 others specialists, 55 allopathic general practitioners and 36non-allopathic general practitioners) were selected for study based on the inclusion criteria.

The appointment with private practitioners was confirmed after a telephonic approach, at a time convenient to each doctor. Objectives of the study were explained and written informed consent for the study was obtained. To get their co-operation, they were informed that their identity will not be revealed, and the work is done only for research purposes. Data was collected by face-to-face interview. A predesigned, pretested semi-structured questionnaire was used to collect the data. Validation of questionnaire was done by a pilot study. The questionnaire was framed based on the STCI standards for management of TB (STCI standards 1,2,7,13,15 and 16). It included questions regarding diagnosis, treatment, follow up and notification of TB cases. The questionnaire also included the questions regarding management of HIV-TB co-infection and screening and chemoprophylaxis of contacts of TB cases. After the interview all private practitioners (PPs) were oriented individually regarding STCI standards and importance of TB case notification. Data was entered in MS excel 2016 and analyzed using SPSS software v16.0. Descriptive statistics were used to calculate frequency distributions.

Results:

TB care practices were assessed for diagnosis, treatment and public health measures taken in comparison with STCI guidelines.

Table1: Diagnostic TB care practices

Diagnostic TB care practices*	Frequency (n=365)	Percentage (%)
Symptoms of Pulmonary TB		
Cough ≥2weeks	246	67.4
Fever ≥2weeks	226	61.9
Significant weight loss	294	80.5
Hemoptysis	256	70.1
Diagnostic technologies recommended for Pulmonary TB		
Sputum Microscopy	141	38.6
Chest X-Ray	319	87.4
CB-NAAT	91	24.9
Sputum Culture	21	5.7
Erythrocyte Sedimentation Rate	120	32.9
Mantoux test	145	39.7

Out of 365 PPs, 246 (67.4%) of the PPs suspected TB if the cough was for ≥2 weeks. Whereas 226 (61.9%) if fever was for ≥2weeks, 294 (80.5%) if there was as significant weight loss and 256 (70.1%) if there was hemoptysis. Tests offered for diagnosis of TB were sputum microscopy, chest X-ray, NAAT (Nucleic acid amplification test), sputum culture, Mantoux test and erythrocyte sedimentation rate by 141 (38.6%), 319 (87.4%), 91(24.9%), 21(5.7%), 145 (39.7%) and 120 (32.9%) of the PPs, respectively. (Table1)

Table 2: Treatment and Public health care practices

Treatment and Public health care practices	Frequency (n= 235)	Percentage (%)
Treatment regimen for DSTB prescribed (2HRZE + 4HRE)	46	19.6
Notification	197	83.8
Screening of close contacts of TB	163	69.3
Isoniazid preventive therapy for household contacts of TB patients <6years	31	13.1

Out of 365 PPs, 235 (64.3%) treated drug sensitive TB patients on their own. The rest of others referred TB patients to pulmonologists/physicians/government hospital for treatment. Among the 235 TB treating PPs, 46 (19.6%) of them were treated with standard 2HRZE + 4HRE regimen. The remaining 189 (80.4%) of them used different regimens to treat drug sensitive TB patients.

Out of 235 PPs treating TB patients, 197 (83.8%) notified them to district TB center, 163 (69.3%) screened their household contact for TB and 31 (13.1%) of them initiated Isoniazid preventive therapy for household contacts of TB patients <6years. (Table-2)

Discussion:

India has published STCI guidelines in 2014 for managing TB patients by all private practitioners. There are very few studies done to know the TB care practices among the private practitioners. According to standard 1 of STCI 9 any person with symptoms and signs suggestive of TB including cough ≥ 2 weeks, fever ≥ 2 weeks, significant weight loss, hemoptysis should be evaluated for TB. In our study, 67.4% of the PPs suspected TB in patients with cough ≥2 weeks, 61.9% with fever ≥2 weeks, 80.5% with significant weight loss and 70.1% with hemoptysis. These findings were consistent with similar study conducted in Andhra Pradesh by Achanta S et al[8] where the TB was suspected in patients with cough ≥ 2 weeks by 68% of the private practitioners whereas, it was more (80.8%) in the study conducted in Hubballi, Karnataka by Patil SK et al[10].

According to standard 2 of STCI 9 sputum microscopy, chest X-ray and CB-NAAT are the diagnostic technologies for Pulmonary TB. TST and IGRA are not recommended to diagnose active TB. Serological tests like ESR are banned and not recommended to diagnose Pulmonary TB. In our study, sputum microscopy was recommended by 38.6% of the PPs, which was less than the findings in the similar study done in done in Hubballi, Karnataka by Patil SK et al[10] (75.8%), in Chennai by Murrison LB[11] (83%) in Andhra Pradesh by Achanta S et al[8] (44%), in South Africa by Davids M et al[12] (41.5%) and in Indonesia by Mahendra Dhata Y et al[13] (62.3-84.6%). In our study, Chest X-ray was recommended by 87.4% of the private practitioners, which was more than Findings in the similar study donein Andhra Pradesh by Achanta S et al[8] (47%), in Hubballi, Karnataka by Patil SK et al[10] (75.8%) and in South Africa by Davids M et al[12] (23.5%). Even though Mantoux test and Erythrocyte sedimentation rate are not recommended to diagnose Pulmonary TB according to STCI guidelines, 39.7% (Mantoux test) and 32.9% (Erythrocyte sedimentation rate) of the PPs recommended these tests These findings were more when compared with a similar study done by South Africa by Davids M at al[12], recommended by 8.5% of the PPs.

In our study, 64.3% of PPs treated TB patients. Others referred patients to pulmonologists / physicians / government hospital for treatment. These findings were consistent with similar study conducted in Kerala by Rakesh PS et al[14] and in Indonesia by Mahendra Dhata Y et al[13], where 63.5% and 66% of the of PPs treated TB patients respectively. These findings were comparatively less in a similar study conducted in Hubballi, Karnataka by Patil S Ketal[10] (41.7%) and in Chennai by Thomas BE et al[15] (22%).

According to standard 7 of STCI[9], all newly diagnosed TB cases should be treated with a regimen 2HRZE + 4HRE. Drug dosage should be based on body weight of the patients and should be given daily under direct supervision. In our study only 19.6% of the PPs prescribed 2HRZE + 4HRE regimen and the rest prescribed different regimens. This finding was less than the similar study done in Andhra Pradesh by Achanta S et al[8], where 35% of the private practitioners prescribed their recommended regimen. In the similar studies conducted in Kerala by Rakesh PS et al[14] and in Mumbai by Udwadia ZF et al[16] found that 5.6% and 6% of the PPs prescribed the correct regimen, respectively.

According to standard 13 of STCI[9], all health establishments must notify all diagnosed TB cases and their treatment outcomes to the district TB center Officer. In our study we found that only 4.4% of the PPs notified TB cases, this finding was comparatively higher than the findings in the similar studies conducted in Bangalore by Bhalla BB et al[17], in Chennai by Thomas BE et al[15], in Chennai by Murrison LB et al[11] and in Indonesia by Mahendra Dhata Y et al[13], where the notification by private practitioner was 64%, 33%, 22% and 42.5% respectively.

According to standard 15 of STCI 9, all close contact of TB patients should be screened for TB. In our study, only 69.3% of the PPs screened the close contacts of TB patients. Ina meta-analysis conducted by Blok L et al[18], which also showed that contacts screening was between <1% to 14%. According to standard 16 of STCI[9], all children <6 years of age who are in close contact of TB patient, after excluding active TB, should be initiated on isoniazid preventive therapy. In our study 13.1% of the PPs initiated isoniazid preventive therapy to the children <6 years, who are close contacts of TB patients. A study done in Bhopal by Singh AR et al[19], also showed that isoniazid preventive therapy was 22% coverage among the children <6 years of age who are close contacts of TB patient.

Conclusion:

From our study we found that compliance with standards for TB care (STCI) for diagnosis, treatment and public health care was uncommon among the Private practitioners in Davangere. As India is planning for TB elimination by 2025, program need to prioritize the involvement of private practitioners.

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