

Approach to the Diagnosis of Pulmonary Tuberculosis by Private Practitioner in Jabalpur City of Madhya Pradesh, India

Deepak Warkade, Jitendra Kumar Jatav, Lalit Jain

Assistant Professor, Department of Medicine, Netaji Subhash Chandra Bose Medical College, Jabalpur, Madhya Pradesh, India

Abstract

Introduction: In India, the majority of patients with respiratory symptoms initially consult to private doctors. Few studies have been performed on the role of private practitioners (PPs) in pulmonary tuberculosis (PTB) control. The present study was performed to assess the knowledge and approach to the diagnosis of PTB by PPs according to Revised National TB Control Programme and World Health Organization standard guidelines.

Aims and Objectives: Find out the approach strategy to the diagnosis of PTB by PPs in Jabalpur City of Madhya Pradesh, India.

Materials and Methods: The present study become a cross-sectional study and was conducted from January 2013 to December 2014 in an urban area of Jabalpur city of Madhya Pradesh, India. The study population included all modern medicine general practitioners (GPs) and specialists; those were practicing internal medicine including chest physicians. About 216 practitioners were participating among them 43 were considered non-responders after three visits at their practice place. So that, total numbers of practitioners interviewed were 173. All practitioners were interviewed by predesigned, semi-structured, and close-ended questionnaire during field visits.

Result: In present study, out of total participants ($n = 173$), ($n = 148, 85.4\%$) were male and ($n = 25, 14.6\%$) were female. The majority ($n = 128, 74.0\%$) of GPs and chest physicians opted for X-ray chest examination as the investigation of choice to diagnose PTB. About ($n = 42, 24.3\%$), of GPs and chest physicians were used sputum examination as an investigation of choice to diagnose PTB.

Conclusion: Relying only on chest X-ray to diagnose PTB may lead to misdiagnosis, overmedication, unnecessary utilization of resources and adding extra cost to the patient. There is need to improve the awareness among PPs regarding the importance of Sputum smear examination to diagnose PTB.

Key words: Private practitioners, Pulmonary tuberculosis, Sputum, X-ray

INTRODUCTION

The Revised National Tuberculosis Control Programme (RNTCP) with the support from the World Health Organization (WHO) and STOP tuberculosis (TB) partnership, initiated the RNTCP TB Xpert Project, which adopt private practice monitoring models to provide diagnosis of TB from the private sector.¹

There are various standards relate to diagnosis of pulmonary TB (PTB) that should be followed by all the people treating TB patients including both practicing in the public and the private sector.²

There is a tendency for emphasis more on chest X-ray by general practitioners (GPs) with little use of sputum smears for diagnoses and/or follow-up of TB patients. The first step in TB control program is early detection of sputum positive cases; this should be an intensive, on-going program for the purpose of TB diagnosis and control. According to the WHO, a confirmed TB case is one from whom a biological specimen is positive by smear microscopy or culture.³

Unfortunately, various studies have been concluded that most of the private practitioners (PPs), never considered

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Corresponding Author: Dr. Deepak Warkade, Department of Medicine, Netaji Subhash Chandra Bose Medical College, Jabalpur - 482 003, Madhya Pradesh, India. Phone: +91-9179795464. E-mail: dipak0211@gmail.com

Sputum examination as necessary investigation to diagnose PTB according to standard RNTCP and WHO guidelines.

Thus, the present study aims to study the PTB diagnostic practice among the urban PPs like Jabalpur city of Madhya Pradesh, India.

MATERIALS AND METHODS

The present study become a cross-sectional study and was conducted from January 2013 to December 2014 within a period of about 2 years in an urban area of Jabalpur city of Madhya Pradesh, India. There are more than 500 doctors are practicing across the city. The total population of Jabalpur is approximately 25 lacs. The present study included 216 PPs; among them 43 were considered nonresponders after three visits at their practice places. So that, the total number of practitioners interviewed were 173. In our study pretested, semi-structured and close-ended questionnaire were used to collect the data.

Inclusion Criteria

All GPs, specialist, those were practicing internal medicine (MD) and chest physicians; with an allopathic degree from Jabalpur city.

Exclusion Criteria

Physicians, who do not have an allopathic degree, e.g., BHMS, BAMS and Unani (Hakeem, Vaidya, etc.) were excluded from the study.

Data Collection Methodology

Selection of study participants

The list of all PPs addresses and contact details were obtained from Indian Medical Association Jabalpur branch and authorized Doctor's directory of Jabalpur city and through personal contacts.

Interviews

Initially, the investigator has visited the practice place of the participants and written informed consent was obtained. A pretested questionnaires related to the study was given to each participant. Interview was conducted at the clinic of the practitioners for about 30 min. The questionnaires included basic demographic details and questions about PTB diagnostic practices. At least three clinics visits were undertaken before considering the doctor as a non-respondent.

Statistical Analysis

The data have been collected on excel sheet and results were analyzed. The results obtained were depicted in the form of tables and graphs that are self-explanatory.

RESULTS

In our study, total numbers of participants were 173. Out of them, majority of practitioners were males ($n = 148$, 85.5%), while only ($n = 25$, 14.6%) were females. Most were in the age group of 40-59 years ($n = 110$, 63.6%). In our study, majority ($n = 133$, 76.9%) of practitioners were doing practice at their private clinics whereas ($n = 40$, 23.1%) were doing Institutional practice. In our study ($n = 26$, 15%) of practitioners had been practicing for <10 years; however, about ($n = 51$, 29.5%) participants had more than 30 years of practice experience. Our study has shown that ($n=90$, 52%) of participants were examined 0-10 PTB patients per month. In our study, the majority ($n = 128$, 74.0%) of GPs and chest physicians opted for chest X-ray examination as the first investigation of choice to diagnose PTB and only ($n = 02$, 1.2%) opted sputum smear examination (Table 1 and Graph 1).

DISCUSSION

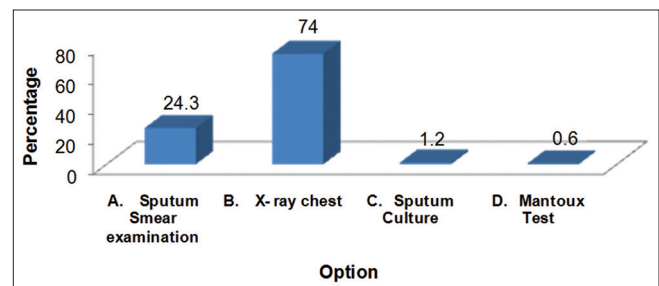
From present study, we were observed that the majority of the practitioners (74.0%) were using chest X-ray as the investigation of choice to diagnose PTB case.

Greaves *et al.*,⁴ in their study observed that 80% of practitioners were using sputum microscopy as a first line test, but a variety of other tests were also employing including Mantoux test, chest X-ray, and a range of blood tests.

In a study by Khan *et al.*,⁵ 96% of practitioners preferred chest X-ray and 48% sputum microscopy.

Table 1: Investigation of choice used by participants to diagnose pulmonary tuberculosis

Option	Participants	Percentage
Sputum smear examination	42	24.3
Chest X-ray	128	74.0
Sputum culture	02	1.2
Mantoux test	01	0.6



Graph 1: Investigation of choice used by participants to diagnose pulmonary tuberculosis

In a study by Okeke and Aguwa⁶ most practitioners (91.2%) based their diagnosis of TB on sputum acid-fast *bacilli*.

The study conducted by Shehzadi *et al.*,⁷ and Cirit *et al.*⁸ were observed that bacteriology become the preferred method of diagnosis of PTB.

However, in studies from India by Prasad *et al.*,⁹ Baxi and Shah¹⁰ almost all doctors (99.8%) used Chest X-ray as an investigation of choice for diagnosis of PTB.

In a study by Pattanshetty *et al.*,¹¹ in Southern India observed that majority of practitioners 67.4% opted for sputum examination as the investigation of choice to diagnose PTB whereas, 26.1% had chosen sputum and chest X-ray both as a modality for diagnosis.

In a study conducted by Hong *et al.*,¹² over 50% of practitioners did not consider sputum examination essential in case finding or diagnosis of PTB.

Study done in the Philippines by Porter and Rubio¹³ have observed that TB diagnosis mainly based on Chest X-ray findings (87.9%) by most of the PPs.

A study by Fidelis *et al.*,¹⁴ for case finding and diagnosis of PTB have found that more than half (55%) of PPs were answered chest X-ray and sputum examination both; from which 30% used Chest X-ray routinely and sputum examination when considered necessary.

After discussion of other studies, we found that there are numbers of limitations of our study. As with any other participant reported survey, it is possible to have social desirability bias because PPs may answer with a response that they think as correct, rather than they are doing in their actual practice.

However, these results still show a distinct difference from the WHO and RNTCP standard recommendation to approach in the diagnosis of PTB by PPs.

CONCLUSION

Standard Guidelines are suggestive of sputum microscopy should be the first investigation for diagnosis of PTB, but our observations have been shown that most of the PPs were not following RNTCP and WHO standard guidelines, and they were using a chest X-ray. In that view, there is need to not only improve the awareness among PPs regarding the importance of sputum smear examination to diagnose PTB but also the necessity of RNTCP training for all.

Regarding the recommendations derived from the conclusions of the study, it is clear that a strong emphasis should be placed on the continuing medical education of GPs in the form of workshops and refresher courses, and through forming Public Private Partnership Scheme. Similarly, there should also be monitoring and evaluation of the standard of care in the various general practices.

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