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Original Research

Knowledge of Private Practitioners Regarding Revised National Tuberculosis Control Program- A Cross-Sectional Study from the Haryana state of India.

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Abstract

Background: India's aim to achieve tuberculosis (TB) eradication by 2025 necessitates the engagement of all stakeholders, encompassing both private and public sectors, across all phases of the TB program – spanning from diagnosis to the curative outcome. However, certain private practitioners pursue an individualized approach instead of adopting a collective strategy, thereby contributing to the emergence of multidrug-resistant tuberculosis. Consequently, in order to formulate an enhanced strategy that fosters improved collaboration and professional behavioral change among all partners, it is imperative to comprehensively assess their level of knowledge.
Aim: This study aims to assess the knowledge level of private practitioners with regard to the diagnosis and management of pulmonary tuberculosis cases within the framework of the Revised National Tuberculosis Control Program (RNTCP).
Methodology: A descriptive cross-sectional study was conducted among 78 selected private practitioners located in seven towns within the Sonepat district of Haryana State, India. The study was approved by the ethics committee of Bhagat Phool Singh Government Medical College for Women, Sonepat, Haryana. Data collection involved the utilization of a self-administered, pre-tested, semi-structured questionnaire. Descriptive analysis was applied, utilizing proportions and percentages.
Results: The collective understanding of private practitioners concerning Tuberculosis and RNTCP was found to be deficient. Around one-third of the practitioners reported that they had not received any visits from health workers in relation to RNTCP. A mere 33% of the practitioners had attended any Continuing Medical Education (CME) sessions, and only a quarter of the participants expressed an intention to collaborate with the RNTCP program.
Conclusions: In conclusion, this study underscores the necessity for RNTCP to focus on fostering the willingness of private practitioners to engage with the program, while simultaneously enhancing their knowledge about Tuberculosis and RNTCP.

Keywords: Private Practitioners, Revised National Tuberculosis Control Program, Knowledge,

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Quick Response Code:

Introduction

India significantly contributes to the burden of tuberculosis and related mortality, necessitating its prioritization for elimination by the government [1]. India's accomplishments in implementing the Directly Observed Therapy Short-course (DOTS) and Stop TB strategy have laid the foundation for achieving the goal of "TB Free India by 2025," surpassing the global target by five years [2–4]. The realization of this ambitious goal requires the participation of all stakeholders, from initial diagnosis and treatment to monitoring the cure outcomes [5].

In India, both the public and private sectors contribute almost equally to various aspects of tuberculosis control [6]. Recognizing this, the government of India has devised interventions such as public-private partnerships and mandatory TB case notification [7–9]. However, most private practitioners treat patients individually, leading to multiple regimen prescriptions and suboptimal treatment, as observed in studies [10–12]. The practice of prescribing multiple regimens poses the risk of drug resistance development.

Numerous studies conducted in India have highlighted insufficient knowledge among private practitioners, resulting in a rising prevalence of multidrug-resistant tuberculosis and further transmission of the disease [13–17]. Therefore, a shift from an individual approach to a mass strategy is imperative. This transition necessitates professional behavior changes among healthcare providers, whether in the public or private sector, which in turn require enhanced knowledge and awareness. To address this need, we conducted a cross-sectional study aimed at assessing the level of knowledge regarding the diagnosis and management of pulmonary tuberculosis under the Revised National Tuberculosis Control Programme (RNTCP) among private practitioners in the Sonepat district of Haryana.

Methodology: This study formed a part of an operational research project approved and funded by the state task force, RNTCP of Haryana. Ethical clearance for the study was obtained from the institute's ethics committee. Informed written consent was obtained before data collection. A descriptive cross-sectional study was conducted across all seven towns of the Sonepat district in Haryana. Private practitioners registered under any officially recognized system of medicine in India (Allopathy, Ayurveda, Unani, Naturopathy, Siddha, and Homeopathy) and practising in Sonepat were included. Private practitioners with a minimum of two years of practice were considered.

Seventy-eight private practitioners were randomly selected from the seven towns of the Sonepat district in proportion to their numbers. The district health authority provided a list of all registered private practitioners treating tuberculosis and pulmonary symptoms in the district. Practitioners with less than two years of experience were excluded, and half of the remaining private practitioners were randomly selected from all study sites, resulting in a sample of 78 private practitioners. Data were collected over a seven-month period from August 2016 to February 2017.

Data collection involved the use of a pre-designed, pre-tested, semi-structured, self-administered questionnaire. The questionnaire was developed based on relevant components from the World Tuberculosis Report 2015 and previously published studies [12, 13, 17–19]. It encompassed the study participants' professional qualifications, the system of medicine they practised, the types of patients they treated, and their knowledge of tuberculosis and its control as per RNTCP. Before data collection, the questionnaire underwent pilot testing to identify and rectify any discrepancies. The raw data were entered into Microsoft Excel 2010 and analyzed using IBM SPSS Statistics version 22.0. Quantitative data were presented using percentages and proportions as statistical methods.

Results

A total of 78 participants were enrolled in the study after obtaining their written informed consent. Table 1 shows the distribution of the study participants based on their professional characteristics. The majority of subjects practiced Allopathic medicine (43.6%), followed by Ayurveda (28.2%). The professional qualification of most participants was Bachelor of Ayurveda Medicine and Surgery (BAMS) (51.3%), followed by Doctor of Medicine (MD) (20.5%). Two-thirds of the private practitioners were general physicians. Regarding professional experience, more than half of them (51.2%) had less than 20 years of experience, whereas 19.2% had 21-30 years of experience, 21.8% had 31-40 years of experience, and only 7.7% had more than 40 years of professional experience.

Table 1: Distribution of study participants according to their Professional profile (n=78 for each characteristic)

Professional Characteristic	Frequency	Percentage (%)
Practice of system of medicine		
Allopathic	34	43.6
Ayurveda	42	53.8
Homeopathy	2	2.6
Professional Qualification		
BAMS*	42	53.8
MD†	16	20.5
MBBS††	4	5.1
BHMS§	2	2.6
Master of Surgery (General)	6	7.7
Master of Surgery (Orthopaedics)	2	2.6
DCH‖	2	2.6
Gynaecology and Obstetrics	3	3.8
DTCD¶	1	1.3

*****Bachelor of Ayurvedic Medicine and Surgery
† Doctor of Medicine
††Bachelor of Medicine and Bachelor of Surgery
§Bachelor of Homeopathic Medicine and Surgery
‖Diploma in Child Health
¶ Diploma in Tuberculosis and Chest Diseases

The majority of patients seeking consultation from practitioners came directly (71.8%), whereas 16.7% of patients were referred by other private practitioners, and 11.5% of patients were dropouts from the DOTS program of the public sector, as shown in Table 4. Only 32.1% of the participants were visited by a health worker regarding RNTCP. Additionally, one-third (33.3%) of the practitioners had attended any Continuing Medical Education (CME) or training on RNTCP, and only 25.6% of the practitioners had ever attempted to collaborate with RNTCP (Table 2).

Table 2: Distribution of study participants according to their clinical practice of Tuberculosis patients and RNTCP (n=78 for each characteristic)

Characteristic	**Frequency**	**Percentage (%)**
Type of patients seeking consultations		
Directly Comes to the practitioner	56	71.8
Referred from other private practitioners	13	16.7
Dropout from the DOTS of Public Sector	9	11.5
Any health worker ever visited the practitioner regarding RNTCP related issues		
Yes	25	32.1
No	53	67.9
Ever attended any CME/Training regarding RNTCP		
Yes	26	33.3
No	52	66.7
Ever tried to collaborate with RNTCP		
Yes	20	25.6
No	58	74.4

When participants were assessed for their knowledge about the treatment of tuberculosis under RNTCP (Table 3), 24.4% of the participants did not know the complete form of RNTCP. Regarding knowledge of symptoms suggestive of TB, only 47.4% of participants correctly identified a cough lasting for more than two weeks, while the remaining respondents mentioned a cough lasting for more than three weeks (35.9%), one week (14.1%), or identified it solely through a positive blood test suggesting TB (2.6%). When asked about the necessary investigations for follow-up cases of TB, 83.3% mentioned sputum examination, 52.5% mentioned chest X-ray, 8.9% mentioned GeneXpert, 16.6% mentioned blood culture, and 25.6% mentioned the Mantoux test. More than half of the participants (53.8%) did not provide a response when asked about the criteria used to suspect Multidrug-resistant TB (MDR-TB). Only 3.8% of participants correctly indicated that MDR-TB is suspected when observing a poor response to anti-tubercular treatment (ATT) in a patient after two months of treatment initiation. Others mentioned that MDR-TB is suspected when there is no response even after six months of DOTS (17.9%) or when symptoms worsen (24.4%).

Table 3: Distribution of study participants according to their knowledge about the treatment of tuberculosis under RNTCP (n=78 for each question)

S.No.	Question	Response	Frequency (%)
1.	Full form of RNTCP	Correct response	59 (75.6)
		Incorrect/ Did not Respond	19 (24.4)
2.	Symptoms suggestive of TB	Cough more than 2 Weeks	37 (47.4)
		Cough more than 3 Weeks	28 (35.9)
		Cough of one week	11 (14.1)
		Results of blood test	2 (2.6)
3.	Investigation for follow up TB cases (Multiple Responses are Possible) n for each response=78	Sputum Examination	65 (83.3)
		Chest X-ray	41 (52.5)
		Gene Expert	07 (8.9)
		Blood Culture	13 (16.6)
		Monteux Test	20 (25.6)
4.	When you suspect MDR-TB?	No response was given by the study participant	42 (53.8)
		No improvement even after 6 months of DOTS	14 (17.9)
		Symptoms get worsened	19 (24.4)
		Poor response to ATT after 2 months	03 (3.8)

Discussion: The present cross-sectional study was conducted among the 78 selected private practitioners of the Sonepat district of Haryana, India, to understand their knowledge about tuberculosis and its control as per RNTCP. The majority of them had a daily Outpatient Department (OPD) of more than 20 patients. Only 44.9% saw suspected TB patients regularly, and 46% rarely saw any of them. Patients directly came to 71% of the study practitioners, and the rest reported receiving referred cases.

The present study reported that private practitioners were practising systems of medicine other than allopathy, including multiple indigenous systems of medicine in the study area, consistent with the findings reported by Andrew McDowell et al. [20]. This creates a scenario of a multiplicity of professional opinions among various systems of medical practice among private practitioners. However, the national tuberculosis program strictly adheres to the allopathic system of medicine for the treatment of tuberculosis in India, necessitating regular communication and training of private practitioners regarding the management of tuberculosis as per the national program.

Over time, the interaction between the program and private practitioners has increased substantially; however, it is still insufficient to curb tuberculosis [21, 22]. Insufficient interaction between RNTCP and private practitioners has been reflected in the knowledge regarding RNTCP among private practitioners, with one-fourth of them not knowing the complete form of RNTCP. Less than half were aware that a cough lasting for more than two weeks was suggestive of TB. Half were still reliant on X-rays for diagnosing TB, whereas only 9% had heard of gene experts. Half of the private practitioners chose to skip the question on MDR-TB. These findings are consistent with the results of studies conducted in different states of India, which reported that the majority of practitioners were unaware of different TB regimens, the availability of free treatment, the correct timing of sputum collection, the correct dosage and duration of ATT, the best method for diagnosing TB, international standards of TB care, and appropriate categorization of TB patients [19-27]. Varying implementation of the Public-Private Partnership (PPP) throughout India may lead to varying levels of communication between RNTCP and private practitioners, potentially hindering universal access to standard TB care. The study reported that any RNTCP health worker never contacted 68% of practitioners. Only 33% of practitioners attended any CME, even though 44% were practicing or qualified allopathic practitioners, and RNTCP strictly adhered to allopathy for treating tuberculosis. Another demotivating fact was that three-fourths of private practitioners never collaborated with RNTCP. This seems to be due to a weak or insufficient initiative from the national program in establishing collaboration with private practitioners. Additionally, conflicting interests among practitioners and RNTCPs may also contribute to mistrust that hampers communication between them [28]. Jyoti Khadse et al. reported that knowledge scores of practitioners in government facilities were also lacking, highlighting the need for regular on-the-job training [29]. Therefore, regular communication between both public and private providers will provide impetus to our efforts to achieve a "TB free India by 2025."

We acknowledge the limitations of our study, which prevent its generalization to the broader population of private practitioners in India. However, the findings of the study may aid in developing a roadmap for improved collaboration between private practitioners and RNTCP. This study has emphasized the need to explore different interventions aimed at leveraging the potential of public-private partnerships to achieve the goal of a "TB Free India."

Conclusions: The interaction between RNTCP and private practitioners is minimal, despite the supportive attitude of private practitioners. While private practitioners' knowledge may not be up to date, they express a desire for regular updates and knowledge regarding TB control in India. Considering the findings of this study, RNTCP now needs to take an active role in harnessing the potential of private practitioners to control tuberculosis and realize the vision of a TB-free India by 2025.

References

1. Global tuberculosis report 2019. World Health Organization. (Accessed September 04, 2020, at https://www.who.int/tb/publications/global_report/en/).
2. Mandal S, Chadha VK, Laxminarayan R, Arinaminpathy N. Counting the lives saved by DOTS in India: a model-based approach. BMC Med (2017) 15:47.
3. WHO | Commitment for a TB-Free India [Internet]. WHO. World Health Organization. (AccessedSeptember 09, 2020, at https://www.who.int/tb/features_archive/tbfree_india_2015/en/).
4. WHO | The Stop TB Strategy [Internet]. WHO. World Health Organization. (Accessed September 10, 2020, at https://www.who.int/tb/strategy/stop_tb_strategy/en/).
5. PM Modi launches TB Free India campaign | DD News. (Accessed September 05, 2020, at http://ddnews.gov.in/national/pm-inaugurate-end-tb-summit-today).
6. Anand T, Babu R, Jacob AG, Sagili K, Chadha SS. Enhancing the role of private practitioners in tuberculosis prevention and care activities in India. Lung India off Organ Indian Chest Soc. 2017; **34**(6):538–44.
7. Public-private mix for tuberculosis care and control in Myanmar: a strategy to scale up? *Public health action*, Volume 7 (**1**):15-20.
8. WHO | Public-Private Mix (PPM) for TB Care and Control. World Health Organization. (Accessed September 16, 2020, at http://www.who.int/tb/areas-of-work/engaging-care-providers/public-private-mix/experiences/en/).
9. Govt. of India Orders of TB Notification dated 07 05 2012. pdf. (Accessed September 10, 2020, at https://tbcindia.gov.in/WriteReadData/l892s/8249592141TB%20Notification%20Govt%20%20Order%20dated%2007%2005%202012.pdf).
10. Murrison, L. B., Ananthakrishnan, R., Sukumar, S., Augustine, S., Krishnan, N., Pai, M., & Dowdy, D. W. (2016). How Do Urban Indian Private Practitioners Diagnose and Treat Tuberculosis? A Cross-Sectional Study in Chennai. *PLoS ONE*, *11*(2).
11. Satyanarayana S, Subbaraman R, Shete P, Gore G, Das J, Cattamanchi A, et al. Quality of tuberculosis care in India: a systematic review. *Int J Tuberc Lung Dis*. 2015; **19**(7):751-63.
12. Udwadia ZF, Pinto LM, Uplekar MW. Tuberculosis Management by Private Practitioners in Mumbai, India: Has Anything Changed in Two Decades? PLOS ONE. 2010;5(8): e12023.
13. Aparajita Dasgupta, Amitabha Chattopadhyay. A study on the perception of general practitioners of a locality in Kolkata regarding RNTCP and DOTS. *Indian J Community Med.* 2010;**35**(2):344-6.
14. Bhalla BB, Chadha VK, Gupta J, Nagendra N, Praseeja P, Anjinappa SM, et al. Knowledge of private practitioners of Bangalore city in diagnosis, treatment of pulmonary tuberculosis and compliance with case notification. *Indian J Tuberc.* 2018;**65**(2):124–9.
15. Ahmed M, Fatmi Z, Ali S, Ahmed J, Ara N. Knowledge, attitude and practice of private practitioners regarding TB-DOTS in a rural district of Sindh, Pakistan. *J Ayub Med Coll Abbottabad* 2009;**21**(1):28–31.
16. Shweta Mangal, Preeti Belani. Management of tuberculosis patients by grass root level practitioners. *International Journal of Community Medicine and Public Health* 2016;**3**(5):1235-1241.
17. Datta K, Bhatnagar T, Murhekar M. Private practitioners' knowledge, attitude and practices about tuberculosis, Hooghly district, India. *Indian J Tuberc*. 2010;**57**(4):199–206.
18. Vandana N, Ali M, Prasad R, Kuroiwa C. Assessment of doctors' knowledge regarding tuberculosis management in Lucknow, India: A public-private sector comparison. *Public Health*. 2009;**123**(7):484–9.
19. Thomas BE, Velayutham B, Thiruvengadam K, Nair D, Barman SB, Jayabal L, et al. Perceptions of Private Medical Practitioners on Tuberculosis Notification: A Study from Chennai, South India. PLoS ONE 2016;11(1): e0147579.

20. McDowell A, Pai M. Alternative medicine: an ethnographic study of how practitioners of Indian medical systems manage TB in Mumbai. *Trans R Soc Trop Med Hyg.* 2016;**110**(3):192–8.
21. K Datta, T Bhatnagar, M Murhekar. Private practitioner's Knowledge, Attitude and Practices about tuberculosis, Hoogly District, India. *Indian J Tuberc.* 2010;**57**(4):199-206).
22. Baxi RK, Shah AR. Management of tuberculosis by the general practitioners of Vadodara city. *Indian J Community Med.* 2006;**31**(4):279–280.
23. Uplekar MW, Shepard DS. Treatment of tuberculosis by private general practitioners in India. *Tubercle*. 1991;**72**(4):284–90.
24. Thakur JS, Kar SS, Sehgal A, Kumar R. Private sector involvement in tuberculosis control in Chandigarh. *Indian J Tuberc.* 2006; **53**:149-153.
25. Yadav A, Garg SK, Chopra H, Bajpai SK, Bano T, Jain S, et al. Treatment practices in pulmonary tuberculosis by private sector physicians of Meerut, Uttar Pradesh. *Indian J Chest Dis Allied Sci*. 2012;**54**(3):161–3.
26. Dasgupta A, Chattopadhyay A. A study on the Perception of General Practitioners of a Locality in Kolkata Regarding RNTCP and DOTS. *Indian J Community Med Off Publ Indian Assoc Prev Soc Med.* 2010;**35**(2):344–6.
27. Srivastava DK, Mishra A, Mishra S, Gour N, Bansal M, Mishra S, et al. An Assessment of Knowledge and Practices Regarding Tuberculosis in the Context of RNTCP Among Non-Allopathic Practitioners in Gwalior District. *Online Journal of Health and Allied Sciences* 2011; **10**(2):5.
28. Vyas RM, Small PM, DeRiemer K. The private-public divide: impact of conflicting perceptions between the private and public health care sectors in India. *Int J Tuberc Lung Dis.* 2003;**7**(6):543–549.
29. Khadse J, Bhardwaj SD, Ruikar M. Assessment of Knowledge and Practices of Referring Private Practitioners Regarding Revised National Tuberculosis Control Programme in Nagpur City - A Cross-Sectional Study. *Online Journal of Health and Allied Sciences.* 2011; **10**(4):2.