

## A Cross-Sectional Study to Determine the Awareness and Practices Related to TB Notification among Private Health Care Workers in Shikaripura Taluk, Shivamogga, Karnataka

Swathi H J<sup>1</sup>, Vinayaka H J<sup>2</sup>, Bhanu Prasad B N<sup>3</sup>, Yashwanth<sup>4</sup>

<sup>1</sup>Assistant Professor, Department of Community Medicine, Kanachur Institute of Medical Sciences, Mangalore, Karnataka

<sup>2</sup>Senior Resident, Department of Surgical Gastroenterology, All India Institute of Medical of Sciences, Raipur, Chhattisgarh

<sup>3</sup>Skin Specialist, Government General Hospital, Shikaripura, Shivamogga, Karnataka

<sup>4</sup>RNTCP Worker, Government General Hospital Shikaripura, Shivamogga, Karnataka

Received: 25-12-2023 / Revised: 23-01-2024 / Accepted: 26-02-2024

Corresponding Author: Dr. Swathi H J

Conflict of interest: Nil

### Abstract:

Globally, tuberculosis (TB) remains a major public health problem and ranks second among the leading causes of death due to infectious disease. The mechanisms provided for notification include both paper and case-based web based online reporting system called NIKSHAY. However, the notification by private providers has been very low. To determine the awareness and practice related to TB notification among private health care providers in Shikaripura, Shivamogga Karnataka. It was a Cross sectional study conducted over a period of 2 month. For this study three groups of private health care providers was covered in Shikaripura Taluk – which includes private medical practitioners, pharmacists and lab technicians. Out of 145 respondents, majority of the respondents were Male (92.4%) and 55.1% were aged less than 45 years. 76.5% respondents were aware that TB is a notifiable disease. Only 35(24%) had registered in NIKSHAY and only 11 (out of 35) (31.4%) had notified in NIKASHAY once. The programme should develop innovative strategies that provide enablers, address concerns of practitioners while having simple mechanisms for TB notification.

**Keywords:** Nikshay, Private healthcare provider, Tb notification.

This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

### Introduction

Globally, tuberculosis (TB) remains a major public health problem and ranks second among the leading causes of death due to infectious disease<sup>1</sup>. Tuberculosis burden in terms of incidence and mortality is very difficult task especially with reporting or when the coverage of case base surveillance system is below benchmarks.

Until recently, only those TB cases that were managed by the public health system were notified in India; while the private health sector had no obligation to notify a TB case [1,2,3,4]. In May 2012 Government of India issued a gazette notification which makes it mandatory for private practitioners to notify any case TB that were diagnosed or treated. The mechanisms provided for notification include both paper and case-based web based online reporting system called NIKSHAY [1,4]. However, the notification by private providers has been very low. Despite the government gazette, TB notification by private practitioners is sub-optimal. According to the

annual TB report of India 2014, only about 30,000 cases (~3% of total notified cases) were notified from the private sector. The non-notification of TB cases not only leads to under-estimation of the patients with TB morbidity and mortality but also impairs the country's strategic planning for control of TB [2,3]. In 2023 there is a rapid improvement in quality of information on notification of Nikshay (a case-based web-based surveillance system) in India. With improvement of private sector engagement & mandatory notification, the coverage of private sector notification has increased over 7 times since 2014 and accounts for over 30% of total notification as on date.

It captures all the components of service delivery for Drug sensitive (DS)-TB and Drug resistant (DR)-TB patients in both public and private sectors. The feature to create a digitally secure Ayushman Bharat Health Account (ABHA - earlier known as Health ID) has been enabled within NIKSHAY thereby becoming compliant with

Milestone 1 of ABDM. The “Post Treatment Follow up module” was built on NIKSHAY through which the field staff can enter the patient-level details of the follow-ups that have been done.

The non-notification of TB cases not only leads to under-estimation of the patients with TB morbidity and mortality but also impairs the country’s strategic planning for control of TB [4].

### Objectives

To determine the awareness and practice related to TB notification among private health care providers in Shikaripura taluk, Shivamogga.

### Materials and Methods

**Design of study:** Cross sectional study

**Study population:** For this study three groups of private health care providers was covered in Shikaripura taluk, Shivamogga district. Which includes private medical practitioners, pharmacists and lab technicians.

**Study duration:** Study conducted between August to September 2022.

**Sample size:** With the prevalence of notification rate is 91%<sup>5</sup> with an allowable error of 10% and at 95% level of significance the sample size was calculated to be 131 using formula  $4pq/d^2$  .and

including non-responsive rate of 10%, sample size was calculated to be 145.

**Mode of selection of subjects:** All private health care providers – medical practitioners, pharmacists and lab technicians was contacted for the study.

**Data collection, sources of data and study variables:** The selected individual private health care providers were interviewed at their work place using semi-structured questionnaire after obtaining their consent. The study variables that collected includes socio-demographic variables like age, sex, qualification, specific information in the past one year regarding TB notification like awareness, practice and anticipated enablers from the programme.

**Inclusion criteria:** All the private health sectors were included in the study.

**Exclusion criteria:** Those who are working in government sectors were excluded from the study.

### Results

Out of 145 respondents, majority of the respondents were Male (92.4%) and 55.1% were aged less than 45 years and 8.9% have done specialization after their basic medicine degree. Majority of the respondents were aware TB Is a notifiable disease.

**Table 1: Distribution of Private health care providers on TB notification, Shikaripura Shivamogga, Karnataka**

Sl no	Type of health facilities	Frequency(n=145)
1.	Private Allopathic Doctors	48(33.1%)
2	Private non-Allopathic Doctors	18(12.4%)
3	Private Laboratory technician	33(22.7%)
4	Dental Doctors	6(4.13%)
5	Pharmacist	40(27.5%)

**Table 2: Socio demographic characteristics from private health care providers on TB notification, Shikaripura Shivamogga, Karnataka**

Sl no	Demography	Frequency (%)	
1	Sex	a) Male	134(92.4%)
		b) Female	11(7.5%)
2	Age	a) <45 years	80(55.1%)
		b) >45 years	65(44.8%)
3	Qualification	a) MBBS	41(28.7%)
		b) Post MBBS	13(8.9%)
		c) BAMS	18(12.4%)
		d) B Pharma	34(23.4%)
		e) D pharma	6(4.1%)
		f) Lab technician	33(22.7%)

**Table 3: Awareness from private health care providers on TB notification, Shikaripura Shivamogga Karnataka**

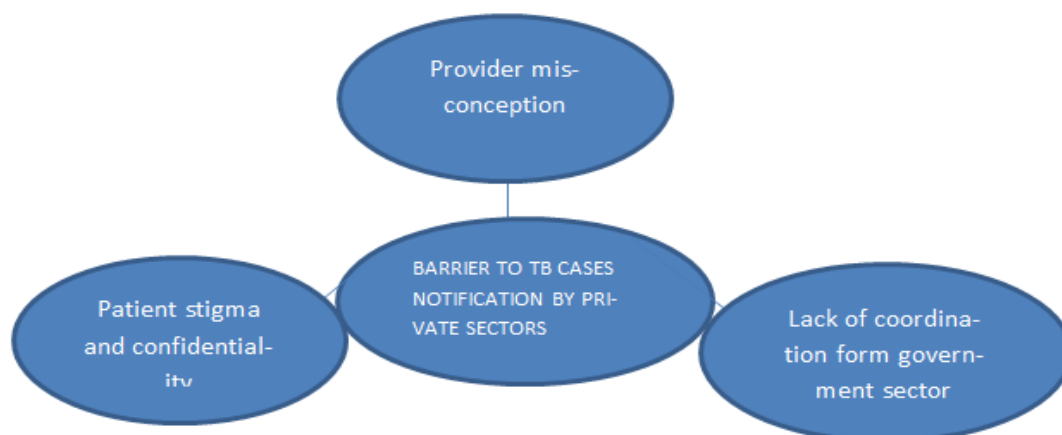
Sl no	Characteristics	Frequency	Percentage %	
1.	TB notifiable disease	a) Yes	111	76.5 %
		b) No	34	23.4 %
2	Source of information	a) Advertisements	9	6.20%

		b) RNTCP personnel's	126	86.8%
		c) Authorities	10	6.8%
3	Is Notification compulsory?	a) Yes	141	97.2%
		b) No	4	2.7%
4	Heard of NIKSHAY?	a) Yes	97	66.8%
		b) No	48	33.1%

**Awareness and practice:** Majority of the respondents were aware that TB is a notifiable disease (76.5%) and main source of information for them is through RNTCP personal and National Tb programme (86.8%). Only 35(24%) had registered in NIKSHAY and only 11 (out of 35) (31.4%) had notified in NIKASHAY once.

Other respondents gave the reason for not registered and notifying in NIKSHAY were

1. They do not treat TB.
2. Chances of missing the patients.
3. Decreasing the patients confident.



**Figure 1:**

## Discussion

Tb is one the most important national Programme since years. The present study mainly reveals about the NIKSHAY and its importance. The Gazette notification by Ministry of health and family welfare has done compulsory notification for Tb cases. Initially this was done only among medical practitioner and lab technician. But now with new gazette notification it had made compulsory with chemist (pharmacist) were patients go and directly get the medicines. The Main aim of this is to reach every single patient in the country. Based on notification of the patient's health staff will take public action regarding convenience of patients, counselling of patients and family members treatment adherence and follow up, contact tracing, giving chemoprophylaxis Isoniazid tab to eligible contacts and screening for Diabetes and HIV

As government has already announced incentives of Rs 500 for Tb patients for national support (NIKSHAY Poshan Yojana) and this new gazette notification have made to reach this for every single patient and no one should be missed.

NIKSHAY is an integrated ICT system for Tb patient management and care in India. It was

launched in 2012. NIKSHAY version 2 launched in September 2018. It provides

1. A unified interface for Public and private health care providers
2. Different types of logins like State, District, TU, PHI, Staff login, Private providers, Chemist, Labs
3. Integrates all Adherence technologies like 99 DOTS and MERM>
4. Unified DSTB and DRTB data entry forms.
5. Mobile friendly website and with mobile app.

This online web-based application named NIKSHAY and it is android mobile application and made easy for medical practitioner, chemist and pharmacist to notify the TB patients. These providers will be given Rs 1000 and Rs 500 will be given immediately after TB notification and remaining Rs 500 will be given after TB treatment completion.

Among the private health care providers interviewed, majority of them were aware of TB programme through National programme staff. But in 2012 Ministry of health and family welfare made compulsory efforts to communicate to public health care providers regarding NIKASHAY and its notification and importance. But in spite of

continuous efforts this rate was less. Similar results had obtained in study done by Sapthami et al in Mysore<sup>3</sup>.

In the present study among private health care providers showed Tb notification rate was more among practitioners and less among pharmacist. Our present study shows that 76.5% of them were aware of Tb notification. A study done by ICMR on Tb notification showed 73% which is almost similar to our present study. A study done by medical practitioner by Sapthami et al [3] in Mysore district which reveals 83.9% were aware of notification and a study by Janani et al in Chennai showed 90% [6] Tb notification rate and a study by Kumaraswamy Hemalata et al in Chennai showed 77% [8].

The present study showed that percentage of private health care providers who got registered with NIKSHAY were 24 %, which was more in Chennai study by Janani et al (36.7%) and less in Mysore study 15.5%.

In the present study 24% were registered in NIKSHAY but out of that only 31.4% have notified once through NIKSHAY portal, which implies that continued medical education programme have to be conducted for private practitioners and continuous information should be given through academic meeting by RNTCP personals. This could improve notification rate.

The factors hindering the notification rate by private health care workers were Patient confidentiality and stigma, lack of time and fear of losing patients, inadequate training technical doubt about programme. Similar results obtain in Tamil-Nadu study by Hemalata et al and Sairu et al from Kerala.[7,8]

**Strength:** A single investigator interviewing all the subjects reduce the interviewer bias

#### Limitation

1. The study had several limitations due to geographical area.
2. Few questions had multiple option which could have impacted our interpretation

#### Conclusion

The programme should develop innovative strategies that provide enablers, address concerns of practitioners while having simple mechanisms for TB notification.

Efforts are to be made to back notification by legal punitive measures and the programme should

strengthen its inherent capacity to monitor TB notification. Community-based interventions, such as the establishment of referral networks and other activities that bring TB information and services closer to those with symptoms, can contribute to improved TB case notification.

#### References

1. World Health Organization Geneva, Switzerland: WHO; 2021. Global tuberculosis report, 2021.
2. Satyanarayana S, Nair SA, Chadha SS, et al. From Where Are Tuberculosis Patients Accessing Treatment in India? Results from a Cross-Sectional Community Based Survey of 30 Districts. Pai M, ed. PLoS ONE. 2011; 6(9):e24160.
3. Chadha SS et al, Mandatory TB notification in Mysore city, India: Have we heard the private practitioner's plea? BMC Health Services Research,2017;7;1. <https://pubmed.ncbi.nlm.nih.gov/28049468/>
4. Ministry of Health and Family Welfare (MoHFW). Central TB Division, Annual status report - TB India. 2014.
5. Mandatory TB notification Gazette for private practitioners, chemists and public health staff. <https://tbcindia.gov.in/WriteReadData/1892s/5329920697FAQs%20on%20Mandatory%20TB%20notification%20Gazette%20English.pdf>
6. Janani et al, A cross- sectional Study on knowledge, Attitude and Practice regarding notification of Tuberculosis Patients by Private Practitioner of Urban Chennai, India. JCDR 2022; 16(12):OC14-OC18.<https://www.jcdr.net>
7. Sairu et al, They Know, They Agree, but They Don't Do"- The Paradox of Tuberculosis Case Notification by Private Practitioners In Alappuzha District, Kerala, India. Plos one 2015; 10(4):e0123286.
8. Hemalata K, Tuberculosis notification: Facilitators and barriers among private practitioner in Tricity, South India. JMGIMS 2021;26:81-85.<https://www.jmgims.co.in/article.asp?issn=0971-9903;year=2021;volume=26;issue=2;spage=81;epage=85;aulast=Thangaraj>
9. Revised National Tuberculosis Control Programme New Delhi, India: RNTCP; 2018. Mandatory TB notification Gazette for private practitioners, chemists and public health staff. <https://tbcindia.gov.in/WriteReadData/1892s/5329920697FAQs%20on%20Mandatory%20TB%20notification%20Gazette%20English.pdf>. [Google Scholar]