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PERCEPTIONS FROM SUB-NATIONAL TB FREE CERTIFICATION ON TUBERCULOSIS CONTROL IN A DISTRICT OF JHARKHAND – A QUALITATIVE STUDY

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Abstract

Introduction-India aims to achieve TB elimination by reducing the incidence of new TB cases by 80% by 2025 compared to 2015. Government is adopting newer innovative strategies and interventions aimed at improving patient outcomes and community health. One of the approach is TB free Status and Sub-National Certification for verification of the claims. The verification process estimated the incidence of TB through community based survey, correcting the notification rate for under reporting of cases in the notification system and using drug sales and utilisation data. This study dwells into healthcare providers' viewpoint towards the TB incidence in the district.

Materials and Methods- Private practitioners and chemists were included in the study. Convenient sampling method was utilized for selection of participants. Nominal Group Technique session was conducted for chemists and Key Informant Interview was done for the doctors.Participants included 9 chemists and 11 doctors.

Result-. All the participants agreed that the incidence of TB cases has decreased. 25% of the patients seek treatment in private sector. KII helped in identification of five themes including TB incidence, Preference for Public or Private sector, Public vs Private Drugs, Drug resistant TB cases and SuggestionsThe efforts of Government towards TB elimination was appreciated by all the participants.

Conclusion- The qualitative nature of the study provides a unique perception towards TB control, including reduced incidence rates, patient adherence to treatment, and preference for public sector resources.All the aspects regarding TB control needs to be addressed to achieve the ambitious goal of TB-free nation by 2025.

Keywords- Tuberculosis, Sub National Certification, Nominal Group Technique, Key Informant Interview, TB incidence

Introduction

India has embarked on a journey towards Tuberculosis(TB) elimination, guided by National Strategic Plan(NSP) 2017-2025 [1,2] envisioning on TB Free India with zero deaths and zero TB disease and zero TB sufferings. [3,4] TB still continues to be a public health problem, taking heavy toll on patients, there family, communities and health care system. The target set to achieve TB elimination is reducing

the incidence of new TB cases by 80% by 2025 compared to 2015, five years ahead of the global target. [5-7] In the fight against TB, the Central TB Division (CTD), Ministry of Health Family Welfare (MoHFW), Government of India (GOI) is adopting newer innovative strategies and interventions aimed at improving patient outcomes and community health. [8]

India is a very vast and diverse country and there is wide variation in TB burden across country and the progress of reduction of incidence of TB varies among states and within state. [3,7]To overcome this issue Government of India along with WHO and Central TB Division (CTD) started TB Free Status for districts/States/Union Territories. Indian Council for Medical Research (ICMR), and Indian Association for Preventive and Social Medicine (IAPSM) were given the responsibility to verify the claims under Sub National Certification (SNC). [7,9]. Criteria for Certification/Interim Recognition of Progress toward TB-free status is the achievement of a reduction in TB incidence as compared to 2015 of ≥20% for the Bronze medal, ≥40% for the Silver medal, ≥60% for the Gold medal, ≥80% for absolute TB-free status[3,7,9] This initiative is to motivate, inspire and instill competitiveness in the mindset of the various stakeholders working towards the elimination of TB.[5 – 7] offering recognition and incentives to the best-performing entities.[6]

Under the SNC, TB scores, treatment data, and community-level incidence estimation, anti TB drug utilization data was utilized to calculate the incidence rate. The SNC had a qualitative research component also to understand the perception among the health care workers about the incidence of TB utilizing the Nominal Group Technique (NGT) and Key Informant Interviews (KII). [8]

The nominal group technique is a structured form of brainstorming consisting of several people who are prepared to work as a team to resolve a problem. The sharing of ideas (which are anonymously submitted) promotes a sense of involvement and motivation within the group [10]

Despite the increase in TB notification and the reduction in TB incidence, there is a need to capture the on-ground reality and ascertain whether the reported improvements align with the healthcare providers' experiences. [8] The study is under taken with the objective to utilize the perceptions from NGT and KII in helping the policy makers in refining the strategies by bridging gap between data and perception related to TB Elimination.

Methods

Study setting: The study was conducted in Palamu district, situated in the North-Western region of Jharkhand State. It covers an area of 5043.8 sq.km and has a population of 19,36,319 (Data as per 2011 Census). [11] There are 1882 villages with male population of 10,03,876 and female population of 9,32,443. The administrative headquarters is Daltanganj (Medini Nagar) situated on the banks of Koel river

The sex ratio is 947 females for every 1000 males and a literacy rate of 65.5 %. There are private and public health facilities, including Medical College, District hospital, community health centres, and urban and rural primary health centres. The district features 24 designated microscopic centres (DMCs), 6 TRUNAAT centres, and 2 CBNAAT centre.

Study Population: Private practitioners involved in treatment of TB patients were included in the study to understand the perceptions of private sector regarding TB elimination. Chemists were also involved in the study to gain insight into private anti TB drug sales, indirectly hinting at the change in the TB incidence.

Sampling technique: Convenient sampling method was used for selection of the participants by verification team in consultation with District Tuberculosis Officer (DTO). Nominal Group Technique based approach was used for discussions with the 9 chemists, stockiest and distributors shortlisted for the NGT. The private practitioners could not participate in the NGT so separate KII were conducted for 11 doctors to make out important inferences regarding drug sale and TB incidence and patient outcome.

Data collection methods: Using qualitative research methods like NGT and KII, TB drug utilization data was collected and verified from private sector using Rifampicin as the indicator drug. NGT is a form of structured group discussion, where participants brainstorm on the questions and ideas put

forth by the moderator and finally reach a consensus or majority decision. Time duration required for the conduction of NGT was around 60–90 min.

Key Informant Interviews (KII) were used to gather detailed insights from selected doctors, chosen for their relevance to the study. The interviews were conducted using structured guides, the interviewer facilitating open discussions on topics related to the study and asking informants for more insights. The topics that were discussed during the NGT/KII included the probes to explorer regarding TB notification, drug sale data and assumptions for calculating patient treatment months, assumptions around coverage of drug sales, prescription for non-TB use of Rifampicin, treatment covered by each unit of product, treatment duration, and results in terms of decline or increase of drug sales.

Information was provided to all the participants about the purpose of the NGT/KII and informed consent was taken to audio record the discussions. The participant could choose to leave the discussion or ask to pause the recording at any time. For maintain confidentiality, data was stored in password protected files accessible only to the Principal Investigator (PI).

Data analysis: During the NGT process, consensus was sought to derive quantitative insights into drug sales and demand, in the private sector within the district. For KII data analysis, verbatim transcriptions were translated from Hindi to English, followed by manual line-by-line coding based on quantitative findings and research questions. The generated thematic codes were processed to yield final outputs.

Results

Nominal Group Technique

NGT was conducted among 9 chemists in presence of DTO and WHO consultant. There was consensus among the participants that TB cases have declined as compared to 2015, one of them even suggesting a 70% decline. Many chemists informed that they stopped selling TB drugs and referred the patients to Government facility. They were aware about H1 schedule, courses and regimen of Anti-Tuberculosis Therapy (ATT). They had no idea about NTEP, testing criteria, DR-TB, UDST. Few chemists sold Rifampicin for Hansen's disease. Detailed information is given in Table 1

Table 1:Quantitative information collected during NGT

Sl.No	Themes	Range of Estimate	Absolute Estimate
1	Proportion of Chemists notifying schedule H1 to DTO/ DI	40-60 %	55 %
2	Proportion of total TB patients seeking treatment from private sector	25-30 %	25 %
3	Proportion of total TB patients in the district seeking treatment from other districts	2-5 %	3 %
4	Proportion of total TB patients in district purchasing anti TB drugs from other districts	0-2 %	1 %
5	Average duration for which a typical patient with TB consumes anti TB drugs (in months)	5- 6	6
6	No. of patients notified by private sector but treated with public sector drugs	150- 300	250
7	No. of patients notified in the verification district but being treated outside in 2020	10-25	15
8	Where do the patients seek care from outside the district where they have been notified	-	Tertiary care Government Hospital
9	Is there any evidence that there is an increase or decrease in such a number of patients between 2015 to 2020	-	100 % participants agreed that there is decrease in TB cases
10	No. of facilities treating patients with TB but not notifying	0	0
11	No. of patients treated in these facilities per year	0	0

Key Informant Interview

KII was conducted for 11 private practitioners. All the participants have been doing private practice for more than 5 years and were involved in treating TB patients. The demographic characteristics of the participants are shown in Table 2.

Table 2: Private Practitioners Demographic Characteristics

Participant	Gender	Age (in years)	Experience in private practice (in years)	Medical Specialty
ME01	Male	60	30	Medicine
ME02	Male	58	28	Medicine
ME03	Male	55	25	Medicine
ME04	Male	45	15	Medicine
ME05	Male	42	12	Medicine
ME06	Male	38	8	Medicine
SU01	Male	56	26	Surgery
SU02	Male	45	15	Surgery
PA01	Male	48	18	Paediatrics
PA02	Male	37	7	Paediatrics
OR01	Male	50	20	Orthopedics

After the content analysis, five themes were identified. These were TB incidence, Preference for Public or Private Sector, Public vs. Private Drugs, Drug Resistant TB cases and Suggestions.

Theme 1: TB Incidence

All the participants in KII agreed that the incidence of TB cases have declined compared to 2015.

'I used to see 2-3 cases of suspected TB on daily basis few years back. But now it has decreased. Currently 1-2 cases of suspected TB come in a week. Governments efforts are bearing good results." ***(ME01)***

"I have been a practicing doctor since around 15 years and the cases of TB has decreased by more than 50 %." ***(ME04)***

Few of the participants mentioned the role of COVID 19 pandemic in decline of TB cases

"People have started following hygiene practices and cough etiquettes due to COVID 19 leading to decrease in TB cases." ***(PA01)***

Most of the participants agreed to the fact that the incidence of Extra Pulmonary TB (EPTB) cases in their practice have increased.

"During my initial years of practice abdominal TB cases were very rare. But nowadays many chronic cases of pain in abdomen are being diagnosed as abdominal Koch's." ***(SU01)***

The cases of pleural effusion and cervical lymphadenitis have increased. Facilities for diagnosing EPTB cases are not very advanced." ***(ME03)***

Some participants also mentioned that TB cases were still prevalent in specific groups and presence of comorbidities played important role.

"Though TB cases have declined, but it is still high in poor people and tribal population." ***(ME02)***

"Chronic alcoholics, diabetics and kidney failure patients are more vulnerable to contract TB." ***(ME06)***

Theme2: Preference for Public or Private sector

Most participants were of the opinion that patients preferred seeking treatment in public sector due to affordability, convenience and improved services. They also encouraged patients to take the treatment from the government facilities.

"Government is providing all the services from diagnosis to treatment free of cost. So patients prefer to go to public sector facilities." ***(ME05)***

"I refer patients to government hospital for diagnostic test and medication. The services have become very good and reliable." ***(SU01)***

I send majority of my patients to NTEP for treatment. Some patients who want to avoid the rush of government hospitals and can afford opt for treatment in private sector." ***(ME03)***
Parents prefer private sector for treatment of their child. There is lack of specialists in public sector especially in the peripheral hospitals." ***(PA02)***

Theme 3: Preference for Public or private drugs

Many participants pointed to the fact that many anti TB drugs are only available in public sector hospital and appreciated government's efforts to provide drugs to patients free of cost, implying preference for public drugs over private drugs

"The introduction of Fixed Dose Combination (FDC) medications by government is a game changer as the previous advantage of private FDC drug is over." ***(SU02)***
"Patients previously used to complain about high number of pills under DOTS. Now that issue has been resolved with FDC drugs. This will lead to better treatment compliance." ***(ME03)***
"Newer and improved drugs and changed regimens under NTEP in Government hospitals will help in treatment adherence and improve treatment outcome." ***(ME01)***
Many chemists have stopped selling anti-TB drugs. The public sector is providing drugs to maximum patients." ***(OR01)***

Theme 4: Drug Resistant TB cases

Most participants have not encountered case of drug resistant TB. However, they are aware of the latest treatment guidelines and concerned about the rising number of DR-TB cases.

"I have yet to see drug resistant TB case. Such patients are generally identified and treated in government hospitals." ***(SU02)***
"There are about 3-5% cases of DR-TB. I refer the patients to government hospital. They have better facility to treat such cases." ***(ME02)***
The growing number of DR-TB cases is a worrying situation. Treatment guidelines for such cases has been shared by District Tuberculosis Centre." ***(ME04)***

Theme 5: Suggestions

Most participants were concerned with comorbidities affecting the outcome of TB. They emphasized on the need to provide healthy diet to patients for better recovery. They suggested to have better diagnostic facilities for EPTB cases. Raising awareness about TB, training of all doctors and access to healthcare services to the tribal and the underprivileged, especially in hard to reach areas and among rural population were some other suggestions given.

Discussion

India has a very high burden of TB and Government is trying different approaches to tackle the situation and achieve the elimination goal by 2025. TB Free Status has been one such component, rewarding the districts/states for their efforts and motivating others to do the same.

The NGT technique offers a unique opportunity to all participants to take part in the discussion and achieving a consensus in the group, without it being dominated by a few participants. [10]The KII highlighted the opinions of the doctors with regard to TB including its incidence, patient's preferences, drug choices. [8] These finding have profound implications for NTEP as well as health in general.

There was a consensus among all participants of NGT and KII that TB cases have declined in comparison to 2015 with some claiming more than 50% decrease in the cases. The results are similar to the findings by BK Anand et al. and BN Sharath et al. [3,8] Participants welcomed the efforts of government and acknowledged that most people preferred seeking treatment from public sector due to accessible and affordable health services. Participants also encouraged the patients to take advantage of the facilities provided under NTEP. The introduction of FDC drugs has helped to improve the patient adherence and treatment compliance. This is crucial for successful treatment outcomes and preventing the development of drug resistance. [8]Most participants were concerned about the rise in number of EP and DR TB cases, leading to worrying situation in the future. Hence the doctors stressed the need for better facilities for diagnosing EPTB cases. Also comprehensive

surveillance efforts with robust supervision and monitoring are crucial in managing drug-resistant cases to prevent transmission. [8]

This study has its own limitations. As the study was conducted within a specific district and NGT/KII only gives in-depth information for a small number of people, the results may not be fully generalizable to other regions. [10]The qualitative nature of the study limits the quantitative representation of participant views. Future research could have larger, diverse samples and mixed methods approaches to enhance the robustness of findings and their applicability to broader contexts.

Conclusion

The qualitative nature of the study provides a unique perception towards TB control, including reduced incidence rates, patient adherence to treatment, and preference for public sector resources. The quantitative results of NGT were validated by the qualitative findings. These findings stress the importance of multi-sectoral involvement and diverse stakeholders. Challenges like drug resistance and EPTB cases emphasize the need to be more vigilant and have targeted interventions. All the aspects regarding TB control needs to be addressed to achieve the ambitious goal of TB-free nation by 2025.

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