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Knowledge, attitude and practice about Tuberculosis (TB) and Revised National TB Control Programme (RNTCP) among rural based Non-allopathic private practitioners

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Abstract:

Introduction: One fourth of the global incident Tuberculosis (TB) cases occur in India annually. Out of the estimated global annual incidence of 8.6 million TB cases, 2.3 million were estimated to have occurred in India. Non- allopathic practitioners are the major service providers especially in rural areas. They also receive patients of TB & other chest infections. Very few studies are undertaken for including these non-allopathic private practitioners and there are more studies done on allopathic private practitioners. Hence the present study was designed with the objective to assess the knowledge and practice of TB case management under RNTCP among the non-allopathic private practitioners. **Material & Methods:** It is an observational descriptive field based cross-sectional study done from February to April among the hundred and twenty eight non-allopathic private practitioners providing their service in rural areas of North Rahuri & Rahata Taluka of District Ahmednagar. **Results:** Though majority of the non-allopathic practitioners > 94% know the causative agent, remedy or pathy used for treating TB and country with highest number of TB cases, only 5% of the 128 practitioners could answer the correct full form of DOTS under RNTCP and 14% could tell sputum examination to be the first investigation of choice in suspected TB case. Non parametric chi-square test showed association of socio-demographic factors like age, duration of practice & strength of OPD with the private practitioner's knowledge and practice about RNTCP. **Conclusion:** There were many gaps in the knowledge and practice about TB and RNTCP found among these non-allopathic private practitioners.

Key words: TB, RNTCP, DOTS, Non-Allopathic private practitioners, Knowledge

Introduction:

India is the second-most populous country in the world. One fourth of the global incident Tuberculosis (TB) cases occur in India annually. Out of the estimated global annual incidence of 8.6 million TB cases, 2.3 million were estimated to have occurred in India. India's TB control Programme is on track as far as reduction in disease burden is concerned. There is 42% reduction in TB mortality rate by 2012 as compared to 1990 level. Similarly there is 51% reduction in TB prevalence rate by 2012 as compared to 1990 level [1].

The National Programme is unable to support TB patients and facilitate effective treatment as there is no information on TB and Multi Drug Resistant (MDR) or Extreme Drug Resistant (XDR) TB diagnosis and treatment in private sector and unable to monitor and act for this looming epidemic. The country has a huge private sector and it is growing at enormous pace. Private sector predominates in health care and TB treatment. Extremely large quantities of anti-TB drugs are sold in the private sector. Poor prescribing practices among private providers with inappropriate and inadequate regimens and unsupervised treatment continues in private sector without supporting patient for ensuring treatment adherence and completion with unrestricted access to first and second line TB drugs without prescription. High cost of TB and MDR / XDR TB drugs for privately treated patients is leading to further poverty and treatment interruptions [1].

India has one of the largest private health care sectors in the world. This sector is often the first point of contact for a significant number of TB suspects and patients. More than 50% of tuberculosis patients go first for advice and service to this group, even in the rural areas one third of the diagnosed

cases approach the private treating agencies. The private service providers have gained credibility and have become popular among patients because of their flexibility and easy accessibility [2].

Non- allopathic practitioners are the major service providers especially in rural and peri-urban areas. They just not only get patients of Diarrhea, ARI and Abdominal Pain but they also receive patients of TB and other Chest Infection. Their awareness about the signs and symptoms and guidelines of RNTCP for the management of TB is also crucial. This will not only increase the early case detection rate but it also increases the treatment success rate [3].

As Private practitioners are dealing with the major bulk of the patients they are the backbone of health care system. Almost half of patients with tuberculosis in India initially seek help from the private healthcare sectors, where diagnosis, treatment and reporting practices often do not meet national or international standards for tuberculosis [4-6].

Very few studies are undertaken for including these non-allopathic private practitioners and there are more studies done on allopathic private medical practitioners [7].

Objectives:

1. To assess the knowledge and practice of TB case management under RNTCP among the non-allopathic private practitioners
2. To give TB health education and distribute IEC material in the form of RNTCP Pamphlet and module and to aware them about RNTCP at the end of collecting the filled questionnaire
3. To suggest necessary recommendations

Material and Methods:

The study is approved by Ethical and Research Committee Rural Medical College (RMC), Loni.

It is an observational descriptive field based cross-sectional study done from February to April 2012 among the registered non-allopathic private practitioners providing their service in rural areas of North Rahuri & Rahata Taluka of District Ahmednagar.

Study material was a pre-designed, pre-tested questionnaire in English language containing both open and close end questions. Study variables were socio-demographic factors like age, sex, qualification, duration of practice, strength of outpatient dept. (OPD) per day and knowledge & practice related basic questions on TB & RNTCP like causative agent, TB suspect criteria, transmission, investigation & treatment, side effects and action taken, sputum examination in TB suspects, Directly Observed Treatment Short course (DOTS), TB-HIV, MDR were included.

All the hundred and twenty eight non-allopathic practitioners working in these two taluk's in district Ahmednagar were recruited purposely due to low TB control performance from its implementation till 2008 through census sampling.

A pilot study was done among 21 non allopathic practitioners providing their service in villages. The questionnaire was then finalized after necessary modifications for the smooth conduct in covering the remaining practitioners.

Exclusion Criteria:

Non-Allopathic Private Practitioners working in collaboration with government service were excluded from the study. Allopathic private medical practitioners were also excluded.

Data collection: A list of all the non-allopathic practitioners with their village address was obtained from Private Practitioner Associations vice-president of District Ahmednagar.

Prior appointment was taken by contacting them telephonically and a suitable time was fixed for obtaining the information in the questionnaire. An informed consent was obtained from all the participants before collecting the data.

Personal interview of all the non-allopathic private practitioners was given and information was collected by getting the questionnaire filled. After getting the information, an RNTCP pamphlet and briefing about free patient care and DOTS strategy was explained in brief. All villages were then covered successively. The Private Practitioner who were left out in a village were called at their contact number obtained from the neighbours, pharmacy and village members and were then covered as per their convenience.

Knowledge was categorized as satisfactory and unsatisfactory based on the cumulative result and the related mean value of the responses. Scores above the mean value were considered as satisfactory and given the value of (1) and scores below the mean value were considered unsatisfactory and given the value of zero (0). These scores were then cross tabulated with the independent variables to look for possible associations.

Statistical analysis was done in the form of proportions, chi test 'p value' using Microsoft excel 2010 and confirmed online by testing karl pearsons non- parametric chi-square test, p value using socscistatistics software [8].

Table 1: Assessment of knowledge and practice in TB & RNTCP among non-allopathic practitioners

Information obtained (answers)	Satisfactory answer	Percentage (%)
Country reporting highest no. of TB cases (India)	124	96.87
TB is caused by (Mycobacterium TB)	122	95.31
Remedy used for treating TB (Allopathic)	120	93.75
Full form of DOTS (Directly observed treatment Short course)	13	10.15
Duration of cough in suspected pulmonary TB (> 2 weeks)	07	5.46
First investigation in suspected pulmonary TB (Sputum examination)	18	14.06
Names of all First line Anti Tb drugs (HRZES)	58	45.31
Usual time to give all medication (after meals)	39	30.46
Usual duration of treatment using first line drugs (6 or 8 months)	48	37.5
Type of regimen used for treating suspected TB patient (thrice weekly)	38	29.68
Whether prescribe Anti-TB drugs to a patient from Medical store (No)	78	60.93
Whether use any of the second line drugs for treating new TB patient? (No)	96	75
Whether TB in a HIV infected patient be treated or cured? (Yes)	46	35.93
If a patient develops Jaundice action taken is (Stop all Anti TB drugs & refer for Investigations)	82	64.06
Where do you refer suspected TB patient for diagnosis (Govt.)	91	71.09
Sputum examination is not done by Ziehl Neelson staining (False)	94	73.43
Mainly sputum positive spread the disease (True)	123	96.09
The Cat- I Regimen is (2 $[HRZE]_3$ + 4 $[HR]_3$)	39	30.46
Drug contraindicated in pregnancy is (Streptomycin)	112	87.5
Dose of Inj. Streptomycin is (750mg)	93	72.65
Toxic effect of Tab isoniazid is (peripheral neuropathy, blood dyscrasis & hepatotoxicity)	18	14.06
MDR TB is resistance to (INH & Rifampicin)	24	18.75

Table 2: Association of socio-demographic factors and TB knowledge & practice

Variables		Total (%)	Knowledge & practice about RNTCP		Chi square	P value
		N = 128 (%)	Satisfactory	Unsatisfactory		
Age	< 40 years	59 (46.09)	41 (69.49)	18 (30.50)	3.97**	0.046
	>40 years	69 (53.90)	36 (52.17)	33 (47.82)		
Sex:	Male	97 (75.78)	67 (69.07)	30 (30.92)	0.64	0.42
	Female	31 (24.21)	19 (61.29)	12 (38.70)		
Qualification:	BAMS*	79 (61.71)	41 (51.89)	38 (48.10)	0.01	0.89
	Others	49 (38.28)	26 (53.06)	23 (46.93)		
Duration of practice	> 15 years	74 (57.81)	33 (44.59)	41 (55.40)	5.12**	0.02
	< 15 years	54 (42.18)	35 (64.81)	19 (35.18)		
OPD strength per day	< 25 patients	115 (89.84)	41 (35.65)	74 (64.34)	11.60**	0.000657
	≥ 25	13 (10.15)	11 (84.61)	02 15.38)		

***BAMS = Bachelor of Ayurveda, Medicine and Surgery**

**** Table value of chi-square at degree of freedom 1 and 95% level of significance is 3.84**

Note: 1. The duration in practice was considered 15 years since the time elapsed after the implementation of RNTCP was 15 years by 2012.

2. Also the OPD strength per day was considered 25 since the average no. of OPD in their clinics was 25. 13 practitioners though had their OP > 50 to 100, but many had OP to less than 10 patients. Hence the average criteria applied for dividing these practitioners for their assessment of knowledge and practice.

Result:

All the non-allopathic private practitioners (100%) cooperated in filling up the questionnaire. There were 71% male and 29% female non-allopathic private doctors. The minimum age noticed was 27 years and maximum of 70 years. The mean age of these private practitioners was 41.5 years. 11% of these practitioners had their higher qualification as MD in Ayurveda and homeopathy. The average years of duration of practice were found to be 16.08 years starting from 6 months to a maximum of 42 years.

As per table 1, it is seen that the knowledge regarding the fact about Mycobacterium TB bacilli as causative agent, India as country reporting highest number of TB cases, allopathic remedy as the only one used to treat TB case and mainly sputum positive patients spread the disease in community was well known to highest percentage (> 93%) of non-allopathic private practitioners.

Almost 92% of practitioners mentioned of receiving minimum 3 to maximum 5 TB suspects per month. Surprisingly sputum collection & examination as first priority to investigate a case of suspected pulmonary TB patient was known to only 14% of the practitioners. Only 45% of the doctors could answer all the names of first line Anti-TB drugs used to treat TB. Less percentage of 30 private practitioners mentioned no drug to be taken empty stomach rather preferred giving all drugs after meals. Out of 128 private practitioners, only 30% opted to use thrice weekly regimen and 37.5% preferred giving the patient course for 6 or 8 months as per RNTCP.

About 61% of the private practitioners were found not prescribing anti-TB drugs to their patients to be taken from any medical store.

It was seen that 75% of practitioners preferred not to use any of the second line drugs for treating a TB patient.

Category – I regimen was mentioned by only 30% of the 128 non-allopathic private practitioners. Also 40% could mention peripheral neuropathy and hepatotoxicity as the toxic effect of tablet isoniazid. 36% of the 128 practitioners believed that TB can be treated and cured in HIV infected patients.

Action to be taken for stopping all Anti-TB medications in a TB patient who develops Jaundice was mentioned by 64 % of the private practitioners. 73% of the practitioners mentioned about the correct dose of injection streptomycin. While 87% mentioned it to be the correct drug contraindicated in pregnancy.

Regarding the knowledge of private practitioners about MDR –TB, only 19 % of the private practitioners correctly pointed the alternative of drugs isoniazid (INH) and Rifampicin resistance.

On asking an open end question of referring suspected TB patient, 71% practitioners mentioned they prefer referring to a nearby Govt. hospital/ PHC From table 2, a non-parametric chi-square test was applied to find out the association of knowledge & practice of these private practitioners with regard to certain socio-demographic variables like age, sex, qualification, duration of years in practice and OPD strength per day. ‘p value of less than 0.05 was considered significant to detect the association.

An association was seen with age, duration of practice and OP strength to the knowledge & practice of these private practitioners. There was a significant difference in the level of knowledge among the practitioners to their age, duration of practice and strength of patient OPD per day.

There was no association was seen with regard to other socio-demographic variables like gender and qualification. The chi-square value calculated was < 3.84, thus increasing the p value to > 0.05 at 95% level of significance. The alternate hypothesis was thus not accepted which concluded no significant difference between the two variables.

Discussion:

This study identified a wide gap in the knowledge and practice about TB and RNTCP among the non-allopathic private practitioners. The reason for responding incorrect full form of DOTS in most of them could be the recall factor. Also in 2009 RNTCP changed the number of sputum collection to two instead of three, hence only 23% of practitioners mentioned it to two sputum samples and 50% had mentioned it to three sputum samples. This also

highlights regarding the lack in update of their knowledge.

The most important aspect RNTCP highlights is priority to sputum collection and examination in case of suspected pulmonary TB case and this was known to very few 14% of the practitioners.

The logical component seen regarding the spread of disease can be the reason that almost all the practitioners 96% could tell that only sputum positive pulmonary TB spread the disease in community.

Regarding the association found between the socio-demographic variable to the strength of OP per day, around 92% doctors out of 13 having their OP ≥ 25 prefer referral of these suspected patients to nearby Govt. based health center.

Since there were only 24% of female doctors as compared to the remaining 76% of male doctors and also majority of the doctors 61% were BAMS, a significant difference to their level of knowledge could not be seen, rejecting the alternate hypothesis i.e., knowledge about RNTCP among the private practitioners to their gender distribution and qualified BAMS doctors respectively differ significantly.

Dhiraj Kumar Srivastava et.al., conducted a study regarding the An Assessment of Knowledge and Practices Regarding Tuberculosis in the Context of RNTCP Among Non Allopathic Practitioners in Gwalior District. The author did the study among doctors working in both public and private health sector and found 25% of female private non-allopathic practitioners and 52% private doctors practicing Ayurveda. In the present study, there were 24% female doctors and 75% male doctors. Also 62% private practitioners were Ayurveda doctors [9]. Jyoti khadse, Sumit Dutt Bhardwaj, Manisha Ruikar did a study "Assessment of Knowledge and Practices of Referring Private Practitioners Regarding Revised National Tuberculosis Control Programme in Nagpur City - A Cross Sectional Study" among 103 private practitioners in which 56 (54.36%) were non allopathic private practitioners. They reported 47.6% of private practitioners with the knowledge about giving first priority to sputum collection for confirming the suspected pulmonary TB diagnosis and a very few around 11.6% practitioners expressed their willingness to involve under RNTCP. In the present study among non-allopathic doctors only 18 % answered correctly and almost all 92% expressed their willingness to involve and manage TB case under RNTCP [10].

Correct response regarding the full form of DOTS was given by 27.0 % respectively by Dasgupta et al. In this study the correct response rate was seen among only 10% of non-allopathic practitioners [11].

It was also noticed in the present study that over 71% of practitioners refer their patients to nearby Govt. health center for diagnosis, these findings were much higher compared to the study done by Basu M. et., al, titled Knowledge and practice regarding pulmonary tuberculosis among private practitioners. They also found that One fourth (28.3%) of the 180 private doctors correctly identified that TB bacilli resistant to Isoniazid and Rifampicin with or without resistant to other anti TB drugs. In the present study 19% of the private doctors were seen to identify the correct resistant drugs causing MDR-TB [12].

Conclusion:

There were many gaps in the knowledge and practice about TB and RNTCP found among the non-allopathic private practitioners. More than half the proportion of the private practitioners aged more than 40 years and 58 % of practitioners with more than 15 years of service were found to have a gap in the knowledge regarding TB and RNTCP.

Recommendations:

1. RNTCP should be an integral part of undergraduate and postgraduate teaching in non-allopathic institutions.
2. During their internship training programmes also interns must be oriented in RNTCP
3. There should be regular, annual sensitization and training workshops, CMEs arranged for the non-allopathic private practitioners.
4. An additional input in the form of incentives, free IEC materials and periodic modular training in RNTCP is the need of hour.
5. A good rapport can be maintained by the Designated Microscopy Center (DMC) DOTS center staff with these private practitioners especially having a good flow of outpatient dept. (OPD) in their population area. Such practitioners can also be promoted to become DOTS providers.

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