



Evaluation of Second Line Anti-tubercular Drugs Prescription of Private Practitioners Chest Versus Non-Chest Physicians

KEYWORDS

Second line anti-tubercular drugs, chest physicians, non-chest physicians

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ABSTRACT All PPs are not well aware about the treatment of TB guidelines; they at times irrationally prescribe the TB regimen. The present study was conducted to evaluate rationality prescription of private practitioner both Chest and non-chest physician. A total of 82 patients were registered. Non-chest physicians showed a larger irrational to rational prescription ratio of 72 against the ratio in chest physicians (4:2). This difference was statistically significant ($p < 0.0001$). Chest physicians, prescribed adequate dose in 60% ($n=6$) patients while 33.33% ($n=24$) in 72 patients treated by non-chest physicians ($p < 0.01$). 2nd Line ATT was indicated in 70% ($n=7$) patients, treated by chest physicians while indicated only in 25% ($n=18$) in 72 patients treated by non-chest physicians ($p < 0.005$). Out of all 10 patients treated by chest physicians drug sensitivity testing was done in 50% ($n=5$) patients while done only in 6.94% ($n=5$) in 72 patients treated by non-chest physicians ($p < 0.001$). Private practitioners specially non-chest physicians need training for prescribing according to RNTCP guidelines.

INTRODUCTION

Tuberculosis is a major global public health problem. In 2014, 6.3 million cases of tuberculosis worldwide were reported to WHO, with India accounting for over a quarter of these cases, the highest of any country.^[1] Although standardized tuberculosis treatment in India is delivered by the public sector through the Revised National TB Control Programme (RNTCP), early diagnosis and treatment are hampered by the presence of a vast and unregulated private health-care sector.^[2-5]

All PPs are not well aware about the treatment of TB guidelines; they at times irrationally prescribe the TB regimen. It is common observation that when patient complains of no relief or treating doctor believes that patient disease is serious or just to ensure extra coverage one or more second line drug is added without adhering to principals made for prescribing them. It was due to above observation the present study was conducted to evaluate rationality prescription of private practitioner both Chest and non-chest physician, of Mahakaushal Area of Madhya Pradesh for second line anti TB drugs has been taken up.

MATERIAL AND METHODS

It was a cross sectional, observational study was in the Department of Pharmacology and Department of Pulmonary and Sleep Medicine, NSCB medical college, Jabalpur, from October 2014 to September 2015 with an aim to evaluate and compare rationality of prescription of private practitioners (Chest vs. non-chest physicians) for second line anti-tubercular drugs.

All patients attending the Department of Pulmonary and Sleep Medicine OPD and admitted in the ward, who were found to have been treated with one or more second line anti tuberculosis drugs by Qualified, Registered private medical practitioner of Mahakaushal area, was included in the study. Patients who did not give informed, not able to communicate properly, treated by non qualified, general practitioner of indigenous system of medicine and consultants of department of pulmonary and sleep medicine, NSCB medical college, and who were prescribed 2nd line

ATT drugs less than one week were excluded.

Detailed history of the patient was taken and data was collected by receiving previous prescription of private practitioner in second line anti tubercular drugs. Rationality of prescription of 2nd Line ATT was decided on the basis of proper indication, prior drug sensitivity workup, rationality of combination of drugs used and adequacy of dose.

Statistical analysis between chest and non-chest physician was done by Chi-square analysis.

RESULTS

A total of 82 patients were registered. Most of the patients were young adults in the age group of 21-40 years with 48.78% ($n=40$) followed by 34.15% ($n=28$), 10.97% ($n=9$) and 6.10% ($n=5$) in the age group of 41-60, 1-20 and 61-80 years respectively. Among all patients 65.85% ($n=54$) were males and 35.15% ($n=28$) were females.

Non-chest physicians showed a larger irrational to rational prescription ratio of 72 against the ratio in chest physicians (4:2). This difference was statistically significant ($p < 0.0001$).

Out of 10 patients treated by chest physicians, adequate dose was prescribed in 60% ($n=6$) patients while same was prescribed only in 33.33% ($n=24$) in 72 patients treated by non-chest physicians. This difference in adequacy of doses was statistically significant ($p < 0.01$).

Out of all 10 patients treated by chest physicians 2nd Line ATT was indicated in 70% ($n=7$) patients while indicated only in 25% ($n=18$) in 72 patients treated by non-chest physicians. This difference in indication for starting 2nd Line ATT was statistically significant ($p < 0.005$).

Out of all 10 patients treated by chest physicians drug sensitivity testing was done in 50% ($n=5$) patients while done only in 6.94% ($n=5$) in 72 patients treated by non-chest physicians. This difference in drug sensitivity testing was statistically significant ($p < 0.001$).

Table No. 1: Comparison between Chest and Non-chest physicians

Criterion	Status	Chest Physician	Non-chest Physician	p value
Rationality	Rational	2	0	0.0001
	Irrational	8	72	
Dose	Adequate	6	24	0.01
	Inadequate	4	48	
Indication for Second line ATT	Indicated	7	18	0.005
	Not indicated	3	54	
Drug sensitivity testing	Done	5	5	0.001
	Not done	5	67	

DISCUSSION

Rationality of prescription of 2nd Line ATT was decided on the basis of proper indication, prior drug sensitivity workup, rationality of combination of drugs used and adequacy of dose in present study. In present study overall only 2.44% (n=2) prescription were rational while rest 77.56% (n=80) prescriptions were irrational. As far as Adequacy of drug dose concern 36.39% (n=30) patients were prescribed an adequate drug dose. The ratio of adequate dose prescription was higher among chest physicians (**Table-1**). **Jain et al (1998)** reported that only 29.70% (n=30) were correct for doses as per the body weight of the patient.^[6] which is comparable to present study. A higher incidence of irrational prescription was found in 9.52% prescriptions by PPs were correct as reported **Mishra et al (2013)** in a recent study. They also reported that factors for drug resistance were present in 67.62 % and overdosing was present in 53.33%.^[7] **Rizvi and Hussain (2001)** reported that 39% doctors resorting to four drug regimen, only 7.3% could write the correct dosages^[8] which is far better than our study. Similar findings could be quoted from studies done in Maharashtra India, where results of one study gave 71% wrong prescriptions amongst post-graduates^[9] and another indicated 79 different prescriptions among 122 practitioners.^[10] **Behera and Balamugesh (2006)** found that weight of was recorded in less than half of the patients. Giving higher dosages will cause increased incidence of side effects and thereby decreasing the compliance with therapy. Similarly, lower dosages will cause emergence of bacterial resistance and then treatment failure.^[11]

Out of all 10 patients treated by chest physicians drug sensitivity testing was done in 50% (n=5) patients while done only in 6.94% (n=5) in 72 patients treated by non-chest physicians. Patients in present study did not fall neither in relapse, defaulter or failure; still only 12.20% were exposed to proper diagnostic test for drug sensitivity which should have been done in all cases. **Dholakia et al (2012)** reported in a study that 89% physicians used the drug susceptibility test (DST) for diagnosis.^[12] The discordance of rifampicin resistance can lead to diagnostic and management dilemmas because DR-TB management has serious consequences. Patients are given more toxic and less effective second line drugs.^[13]

CONCLUSION

Chest physicians shown better performance against non-chest physicians as far as rationality, dose adequacy, indication and proper testing is concern for prescribing second line anti-tubercular drugs. Non-chest physicians need more training for prescribing correct second line anti-tubercular

treatment in accordance with RNTCP guidelines.

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