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Medical Science

An Observational Study of Prescription Pattern of First Line Anti-Tubercular Drugs by Private Practitioners

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ABSTRACT

TB has continued to remain a major global health problem. TB is treated by anti-TB drugs like Isoniazid, Refampicin, Pyazinamide, Ethambutol, and Streptomycin, which are known as first line anti TB drugs. Almost half of patients with TB in India initially seek help from the private healthcare sectors. Evaluate prescription pattern of private practitioners for First line anti-tubercular drugs was done. Out of 82 patients, 52 Patients were prescribed first line and second line ATT same at time-period, 30 patients prescribed first line ATT drug course before addition of second line ATT, in which 8 patients prescription second course of first line ATT before addition of second line. Ninety percent (n=27) patients were on HREZ while 10.00% (n=3) were on HRE drug regime. Eighty percent (n=24) patients were given fixed dose combinations.

KEYWORDS : prescription pattern, first line anti-tubercular, private practitioners

INTRODUCTION

TB has continued to remain a major global health problem despite rigorous efforts on national and international front and ranks as the second leading cause of death from an infectious disease worldwide.[1] Though India is the second-most populous country in the world, one third of the global TB cases occur in India annually.[2] TB is treated by anti-TB drugs like Isoniazid, Refampicin, Pyazinamide, Ethambutol, and Streptomycin, which are known as first line anti TB drugs. In the event of resistance to first line anti TB drugs like Kanamycin, levofloxacin, Ethionamide, Cycloserine, Amikacin, Prothiomamide and PAS etc. are prescribed.[3] There are no global standards available for writing medical prescriptions. A rational prescription ensures maximum benefits with no or minimum ill-effects, cost optimization and sometimes good patient compliance also.[4, 5]

Almost half of patients with TB 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 TB.[6-8]

AIMS & OBJECTIVES

To evaluate prescription pattern of private practitioners for First line anti-tubercular drugs as compared to standard guidelines.

MATERIALS AND METHOD

After getting approval from the institutional ethical committee, the study was conducted NSCB medical college, Jabalpur for one year from October 2014 to September 2015. 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 anti tuberculosis drugs by PPs, will be included in the study. The participants in this study had been offered to voluntarily participate in the study and they had given the informed written consent before they were enrolled in the study.

All the Qualified, Registered private medical practitioner of Mahakaushal area, prescribing one or more second line anti tubercular drugs in their prescription.

All practitioner/patient who did not give consent, not able to communicate properly and non qualified practitioners of Unani, Siddha, Tibbit etc were excluded.

RESULTS AND OBSERVATIONS

Out of all 82 patients 36.59% (n=30) had prescribed First course of 1st Line ATT and 9.76% (n=8) patients prescribed second course of 1st line ATT other than second line drugs.

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.

Out of all 30 patients on First course of 1st Line ATT mostly (80.00%, n=24) had completed or were in six month of course while only 6.67% (n=2) in >9 month of course duration. Ninety percent (n=27) patients were on HREZ while 10.00% (n=3) were on HRE drug regime. Eighty percent (n=24) patients were given fixed dose combinations. All 30 patients administered drugs orally.

Source of drugs were private in 60.00% (n=18) while Government in rest 40.00% (n=12) patients.

Out of all 30 patients 36.67% (n=11) showed improvement after first course of 1st Line ATT, 33.33% (n=10) showed partial while 30.00% (n=9) showed no improvement.

Most number of patients were treated by MD/MS physicians and constitutes 80.00% (n=24) of patients. Ten percent (n=3) of patients were treated by chest physicians each. Out of all 8 patients on Second course of 1st Line ATT mostly (75.00%, n=6) had completed or were in nine month of course with 37.50% (n=3) in 6-9 month, 37.50% (n=3) in >9 month each, followed by 25.00% (n=2) in 6 month.

Fifty percent (n=4) were on HREZ and on HREZS drug regime each.

Patients of second course of 1st Line drugs, 50.00% (n=4) were given fixed dose combinations and 50.00% (n=4) on oral+injectable preparations.

Fifty percent (n=4) patients administered drugs orally and rest 50.00% (n=4) drug administered as oral+injectable formulations.

Table – 1
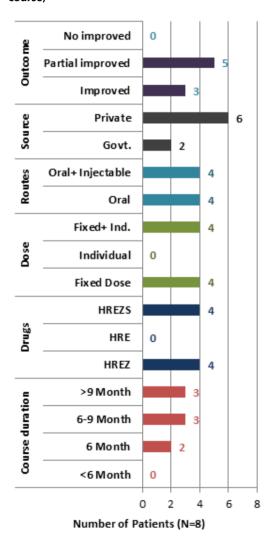**Showing history of treatment (1st line ATT first course)**

S. No.	Characteristics		Number of Patient (N=30)	Percent (%)
1	Course duration	<6 Month	13	43.33
		6 Month	11	36.67
		6-9 Month	4	13.33
		>9 Month	2	6.67
2	Drugs	HREZ	27	90.00
		HRE	3	10.00
		HREZS	0	0.00

3	Dose	Fixed Dose	24	80.00
		Individual	1	3.33
		Fixed+ Ind.	5	16.67
4	Routes	Oral	30	100.00
		Oral+ Injectable	0	0.00
5	Source	Govt.	12	40.00
		Private	18	60.00
6	Out- come	Improved	11	36.67
		Partial improved	10	33.33
		No improved	9	30.00

Source of physician were private in 25.00% (n=2) while Government in rest 75.00% (n=6) patients.

Out of all 30 patients 37.50% (n=3) showed improvement after second course of 1st Line ATT, 65.50% (n=5) showed partial improvement.

Figure - 13
Showing history of treatment (1st line ATT Second course)

Number of Patients (N=8)

DISCUSSION

During period of study a total number of 82 cases registered from Mahakaushal area. Out of 82 patients, 52 Patients were prescribed first line and second line ATT same at time-period, 30 patients prescribed first line ATT drug course before addition of second line ATT, in which 8 patients prescription second course of first line ATT before addition of second line.

Most of the patients in present study were young adults which is comparable to study done by **Sexena et al (1987)**[9] and **Kingsy et al (1998-2008).**[10]

In present study 36.59% (n=30) patients were still in on First course and 9.76%% (n=8) Second course of 1st Line ATT. Ninety percent (n=27) patients in First course and 50% (n=4) in Second, were on HREZ while 10.00% (n=3) were on HRE drug regime. Rest 50% patients in Second course of 1st Line ATT were on HREZS. Eighty percent (n=24) patients were given fixed dose combinations, 16.67% (n=5) were given fixed combination and individual drugs. Injectable drugs with oral drugs only used in 50% of Second course patients. Only one patient was on individual drugs formulation in First course.

Present study did not analyzed for rationality of 1st Line prescription but different studies have shown varied results. Most First course 1st Line ATT patients in present study were treated by MD/MS physicians and constituted 80.00% (n=24) of patients. Ten percent (n=3) of patients were treated by chest physicians and MBBS each. In a study by **Hussain** *et al* **(2005)** out of 53 prescriptions only 2 (3.7%) met the required standard. Eighty three percent (n = 44) favoured a combination drug for the treatment while the rest preferred individual preparations. [11] **Basu** *et al* **(2013)** found only 6.7% private practitioner knew treatment regimens correctly for each category. [12] In contrast to most studies discussed, majority of 67.5% of the physicians gave the correct drug combinations for the intensive phase of Category I pulmonary TB cases in the study conducted by **Yadav** *et al* **(2012)**. **Yadav** *et al* **(2012)** also reported that 53.3% treating physicians were MD in Medicine, 37.7% were MBBS graduates and the rest 14 (9%) were chest specialists,[13] while most patients in present study were treated by MD/MS physicians.

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