AUDITING OF PRESCRIBING PATTERN OF DOCTORS IN TERTIARY CARE CENTRE IN BANGALORE

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Summary

The prescribing pattern of doctors at the tertiary care referral centre was evaluated for rational drug therapy. The study was conducted on 390 prescriptions. Auditing of prescription pattern revealed that few prescriptions did not conform to the pattern of a typical prescription. Superscription was not mentioned in 17.9%, whereas inscription, subscription and transcription were not adequate in 14.1%, 14.9% and 25.6% of the respectively. Signature was not found in 7.4%, and tendency to prescribe brand name (74.9%) was more than generic name (27.7%). Over prescribing was in 6.2%, Polypharmacy in 5.9% of prescriptions and banned drug formulations was prescribed in 0.5% cases.

Key words: Prescription audit, Rational drug therapy, Tertiary care centre

Introduction

Prescription is a written order from a physician to the pharmacist for supplying medicine or surgical appliances to the patient at a particular time. The series of components in prescription allow it to be interpreted and executed correctly. As erasures, on a prescription can lead to dispensing errors [1] .

Now a days the prescribing pattern is changing. It has become just an indication of medicine with some instructions of doses without considering its rationality [2]. This has resulted into major problems of present day medical practices. Their consequence includes ineffective treatment, Polypharmacy, unnecessary use of antimicrobial agents, development of resistance, drug interaction and adverse drug reaction. Later this imposed burden to patients and the society. The irrational prescribing can be avoided by adhering to the ideal prescription writing and rational drug use [3, 4] .

So, there is a need for mass awareness among the physicians and consumers about the concept of essential medicines, banned drugs, advantages of generic drug prescription and use of rational drug combination. Thus, this study was undertaken to audit prescribing pattern and whether drugs prescribed were rational.

Materials and Methods

Prescriptions were collected at random at tertiary care centre in Bangalore, during working hours of the out-patient department of Medicine. Prospective study was carried out for a period of 10 days. The data collected was entered in a specially designed proforma by a member of investigating team and later was subjected to descriptive analysis.

The following details of each prescription were analyzed for: Diagnosis of illness, Identity of prescriber, and other following elements of a typical prescription were observed [1, 5, 6].

I) For prescription format:
 a) Patient's identity: Name, age, address
 b) Date: Day on which the prescription was written
 c) Superscription: Symbol R_x signifies recipe or "take thou"
 d) Inscription: Medication information and Drug-generic or brand name.
 e) Subscription: Dispensing direction for pharmacist.
 f) Transcription: Direction to the patient as to how to take the drugs.
 g) Signature: Prescriber identity, name, address and qualification.
II) For Rationality of prescription:
 i) Drug, dose, dosage form, strength, total amount prescribed and for adequate period of time.
 ii) Over prescribing: drug prescribed unnecessarily either overdose or longer period.
 iii)Under prescribing: is also serious as the treatment is for shorter duration and is not effective, an aggressive or an expensive treatment may be needed later.
 iv) Polypharmacy or Multiple prescribing: Average number of drugs per prescription or prescribing drugs only on signs and symptoms instead of underlying primary disease, this may be irrational and may give rise to drug interaction.
 v) Banned drugs: Banned by WHO or Drug Controller General of India. Which are likely to involve risk to human beings and do not have therapeutic justification.

Results

During the study period, total of 390 prescriptions were collected and entered in the computer data base file and analyzed. The evaluation of prescription format revealed (Table 1). All prescription had clearly documented the patient's identity. Date was not mentioned in only 1 prescription. Superscription was not mentioned in 17.9%, the drugs were written directly. Inscription was not clear in 14.1%, use of generic name was less common (27.7%) than brand name (72.7%). Abbreviation like Hs, SOS, OD, BID were commonly used. Subscription: 14.9% of prescription, quantity to be dispensed was

inadequate. Tablet or capsule was not mentioned and tablet was indicated as 'T'. Transcription: 25.6% prescriptions were inadequate. In liquid medication example cough syrup the actual volume was not indicated. The words like "take, insert, place" were not mentioned. Instructions about refill or caution were not mentioned example antihistaminics chlorpheneramine. Prescriber's identity: 7.4% of prescription were without signature and name of the prescriber.

Table 1. Details of Prescription.

Elements of prescription	Number of prescription (n=390)	Percentage (%)
Patient's detail	390	100
Date	389	99.7
Superscription	320	82.1
Inscription	335	85.9
Subscription	332	85.1
Transcription	290	74.3
Prescriber's identity	361	92.6

Evaluation of rational drug therapy (Table 2): Dose strength and schedule: 2.8% of prescription showed incorrect dosage and total amount was not mentioned but only the drugs name was written. Overprescribing: 8.7% of prescription showed overprescribing for e.g. in a case of severe hypertension high dose of hydrochlorothiazide 1g with other drug combination, increased duration of treatment with antibiotics without culture sensitivity being done. Underprescribing: Out of 390 prescription seven were underprescribing , of which in two inadequate dose eg. Paracetamol of 250mg sos, and other five prescription were with lesser time duration eg. In upper respiratory tract infection Cap Doxycyline for 3 days. Polypharmacy: 23 prescriptions had 3 or more drugs mentioned. Multiple prescribing with unnecessary medication was in 5(prescription), cough syrup mixtures with multiple ingredients, vitamins and antibiotic for non-specific diarrhea (norfloxacin+ tinidazole). Banned drugs: 2 prescription, in one Nimesulide, and other phenylpropanolamine in combination with Paracetamol and cetrizine was prescribed for allergic rhinitis.

Table 2. Details of Rational drug therapy

	Number of prescription (n=390)	Percentage (%)
Dosage form, Strength, Total amount	11	2.8
Over prescribing	24	6.2
Under prescribing	7	1.8
Poly pharmacy/multiple prescribing	23	5.9
Banned drugs	2	0.5

Discussion

Ansari KU et al had studied in private sector and service sector the evaluation of prescribing pattern in Allahabad and majority of the prescription were not explicit in there content. Bapna et al had observed the drug utilization pattern in the primary health care level in south India [7]. And Soumerai SB study on factors influencing prescribing, it is evident that the irrational use of drugs is a common occurrence throughout the world [8]. Two important prerequisites that promotes rational prescribing habits are sound clinical knowledge and clinical pharmacology of the drugs used. It is rather a difficult task to know in detail about large number of drugs formulations available in the market and also prescribing behavior of the clinicians.

The present study elucidates that the prescription in the tertiary care center were more rational. Use of generic name, over prescription and drug interaction were also less frequent. As compared to previous studies of Anasari et al for elements of prescription and rational drug use. Patient's details were not found in 6%, age in 85%. Superscription (71%), Inscription (50%), Subscription (18.5%), Transcription (35%) and prescriptions were not signed by prescriber in 80% [2]. When compared to the finding of the study of Zaida Ralman et al for the use of brand name (0.008%) [9], it was less frequent than in our study (74.9%).

To conclude, this preliminary study could promote the physicians of today to imbibe and practice the principles of "rational drug therapy". It should be followed in the interest of patient's health care. And legal consequences of injudicious medication can also be avoided. Attempt should be made to educate and improve prescribing pattern and perception to rational prescribing in the future prescribers, the medical students.

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