

Analysis of Prescription pattern in patients attending Government Maternity Hospital.

Dr. K. C. Radhika Rani¹, *Dr. N. Anitha², Dr. T. Bharathi³,
Dr. P. Chandrasekhar⁴.

¹(Professor, Department of Pharmacology, S. V. Medical College, Tirupati, A.P., India.)

²(Associate Professor, A. C. S. R. Government Medical College, Nellore, A.P., India.)

³(Professor, Department of Obstetrics and Gynaecology, S. V. Medical College, Tirupati, A.P., India.)

⁴(Professor, Department of Obstetrics and Gynaecology, S. V. Medical College, Tirupati, A.P., India.)

Corresponding Author: Dr. N. Anitha.

Abstract

Objective: To analyze the prescription pattern in Gynaecology OPD of Govt Maternity Hospital, Tirupati.

Methods: A prospective, cross sectional study was conducted. This study was conducted for duration of 3 months. A total of 311 prescriptions were randomly collected and the prescriptions were analyzed.

Results: Average no of drugs was 3.27. 33% of prescriptions had antibiotics and 105 prescriptions with injections, drugs prescribed by generic name were 0.29%. Although superscription and transcription was not satisfactory the inscription dose, route and duration were mentioned in 77.8 %, 83.2%, 72 % cases respectively.

Conclusion: On the basis of findings of the study, the antibiotic usage, generic prescription showed deviation from the standard recommended by WHO. The prescribing practices in this study are not satisfactory. The study was undertaken to give feedback to the prescribers, so as to create awareness about the rational use of drugs.

Keywords: Antibiotics, Prescription pattern, Rational drug usage.

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I. Introduction

Prescription order is an important transaction between the physician and patient. It is an art as it reflects the instructions given by the prescriber to the patient. Inappropriate prescribing is known all over the world as a major problem of health care delivery. Irrational drug use is prevalent in the developing countries due to irrational prescribing, dispensing and administration of medications.^[1] They also make prescriber vulnerable to influences which can cause irrational prescribing. Important reasons of irrational drug prescription are lack of knowledge about drugs, unethical drug promotions and irrational prescribing habits of clinicians.^[2] Good prescription means – making diagnosis, knowing your patient kidney and liver function tests, getting the dose right, being alert to development of adverse drug reactions, being very clear about what you are prescribing. If using hand written prescription write clearly, if using electronic prescribing beware drop down menus and drugs with similar looking names. Ex: Carbimazole and Carbamazepine. There are some mistakes occur during prescription, they are - focusing on presenting complaint and forgetting other medical condition, forgetting that women can get pregnant, forgetting that a newly prescribed drug can interact with long term drug treatment specific precautions to be informed ex; colour of urine, gastritis etc. Complete course of treatment and its significance should be informed to the patient. Many factors associated with prescribing mistakes are the following - reassuring, tired, doing several things at once, communications break down. There are also factors specific to the medical environment including – not familiar with drug chart, unfamiliar patient, arithmetical errors in calculating dose, omitting drugs for newly admitted patients because of inadequate information, understanding capacity of the patient. So prescribing is important, must be taken seriously and must be given the time and care that your patient deserves. The medical council expects that by the time they graduate, medical students will be able to - prescribe drugs safely, economically, and effectively elicit accurate drug history covering both prescribed and other medication. Plan appropriate drug therapy for common indications including pain and distress. Provide safe and legal prescription, calculate appropriate drug doses and record the outcome accurately. Detect and report ADR. Know the cost and capacity of patient into consideration. To take other prescription followed by patient before prescribing any drug to avoid duplication/drug interaction. To avoid drugs allergic or which patient sensitive, to avoid drugs contraindicated in pregnancy or lactation period which may affect fetus or new born baby. Monitoring of prescriptions and drug utilization studies can identify the problems and provide feedback to prescribers so as to create awareness about irrational use of drugs.^[3] To improve overall drug use, in developing countries, international agencies like the World Health Organization

(WHO) and the International Network for the Rational Use of Drugs (INRUD) have applied themselves to evolve standard drug use indicators. ^[4] These indicators help us to improve our performance from time to time. ^[5]

II. Materials and Methods

A cross sectional prospective study was conducted in outpatient department (OPD) of Gynaecology, a tertiary teaching hospital. In our study a total of 311 prescriptions were randomly collected from the patients who were attending the Gynaecology OPD in maternity hospital after taking written informed consent from the patient over a period of 3 months duration. Approval from the Institutional Ethical Committee was obtained before the start of the study. All the useful information is obtained from the patients by predesigned questionnaire. After collecting the information we will analyze the prescription pattern, dose, duration, whether they are related or not related to health problem, to know the side effects, to evaluate the drug to drug interaction, whether instructions given to patient or not and also analyzed to find out the prescribing pattern in the hospital using the prescribing indicators. ^[6] Inclusion criteria are female aged 18-55 years attending OP, who are willing to participate in the study. Exclusion criteria are age below 18 and above 55 years and seriously ill patients.

III. Results

A total of 311 prescriptions were randomly collected and analyzed. A total no of drugs prescribed were 2769. Average no of drugs prescribed per encounter was 3.27, Total no of prescriptions with injectable were 105, total no of prescriptions with FDC (Fixed Drug Combination) were 188 (Table - I).

Table - I: Prescription Indicators

Total no of prescriptions analyzed	311
Total no of drugs prescribed	2769
Average no of drugs per encounter	3.27
Total no of prescriptions with injectable	105
Total no of prescriptions with antibiotics	224
Total no of prescriptions with FDC	188

Table - II: The Common Drugs Prescribed

	Prescriptions	Drugs	
Vitamins & Minerals	145	3	46.6%
Analgesics	74	4	23.8%
Antispasmodics	87	3	28%
Antibiotics	224	6	72%
Antiulcer drugs	143	2	46%
Others		8	
	Total	26	

Table - III: The Common Antibiotic Prescribed

Doxycycline	103	33%
Metronidazole	124	39.8%
Fluconazole	69	2.4%
Ciprofloxacin	24	0.8%

The commonly prescribed antimicrobials were metronidazole 39.8%, and doxycycline 33%, fluconazole 2.4% ciprofloxacin 0.8% (Table - III).

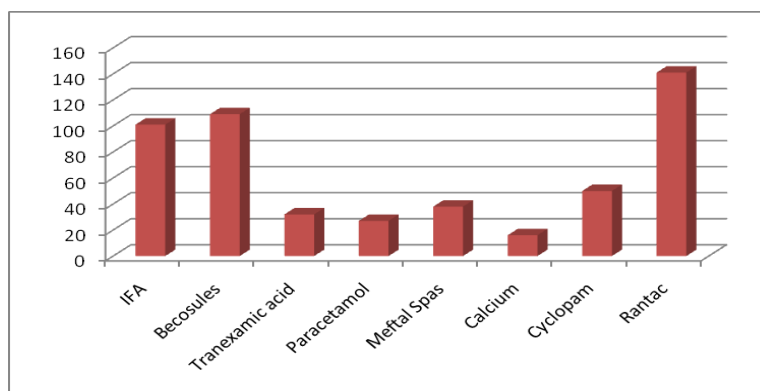


Chart-1: The Common Drugs Prescribed

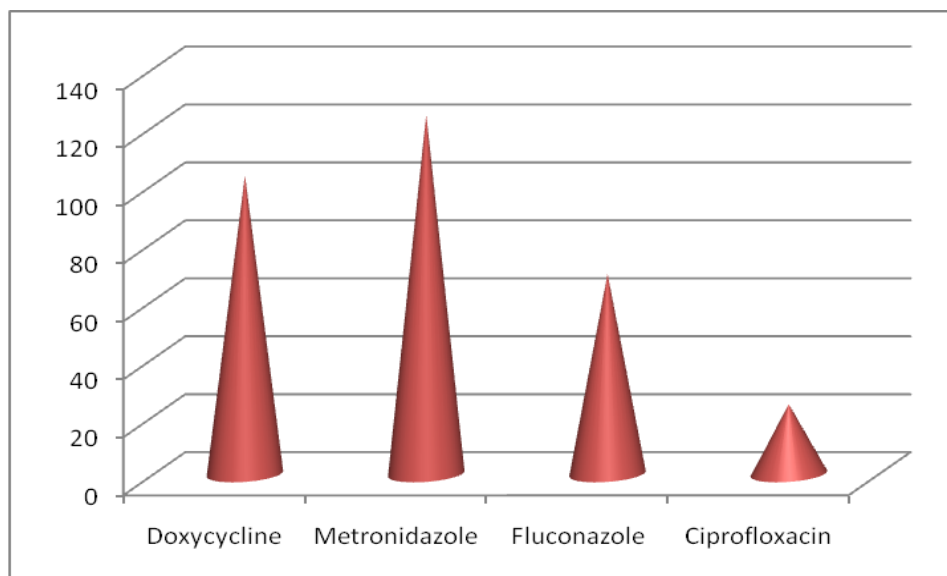


Chart-2: The Common Antibiotics Prescribed

Table – IV: Percentages Of Medication Error

	Present (%)	Not present (%)
Route	83.2	16.8
Dose	77.8	22.2
Frequency	78.5	21.5
Strength	68.3	31.7
Dosage form	79.6	20.4
Duration/number of doses	72.0	28.0
Quantity to supply	63.7	36.3
Generic name of drug	35.8	64.2

Table - V: Percentages Of Patient Errors

	Present (%)	Not present (%)
Patients name	71.7	22.6
Age	41.5	52.8
Occupation of patient	20.8	73.6
Weight/Height of patient	37.7	56.6
Date	58.5	35.8
O/P number	56.6	37.7
Prescribers name	41.5	52.8
Prescribers signature	66.0	28.3
Diagnosis	79.2	15.1

IV. Discussion

In this study Table - I shows the average of 3.27 drugs prescribed per encounter that was according to the suggested WHO criteria which is less than two.^[7] The average number of drugs per encounter was 3.27; it was close to studies in Government setups across Indian cities, Delhi/3.03, Nagpur – 3.4,^[8] and Allahabad 3.52.^[9] International studies report values ranging from 1.3 in Zimbabwe^[10] to 4.51 in Pakistan^[11]. In other studies like the study done in Wollo Region 1.91 drugs per encounter, in Attat hospital 2.6, Sodo hospital 2.4, Mizan hospital 1.8.^[12-14] The variations of the results may be attributed to difference in availability of drugs and prescriber status. Table - I shows no. of prescriptions with injectables 105 (33.8%). This is high when compared with findings from other studies (WHO 13.4-24.1). However higher values of 38.1% were reported in Ethiopia, Enugu, Nigeria. The lower values of injection use found in this facility may be the setting where the study was carried out. This study was conducted in OPD. In general outpatient departments, all units, fairly stable patients are seen and followed up routinely, so the need for injections might be minimal. Table - II shows the most common groups of drugs prescribed were antimicrobials (72%) followed by vitamins and minerals 46% antiulcer drugs 46% and analgesics 23.8% and antispasmodics 28%. This finding is different from the Nigeria study where analgesics were most commonly prescribed drugs (36.2%). Other groups of drugs

most commonly prescribed are after the antibiotics are antiulcer drug (Rantac). Among vitamins and minerals, B complex group of vitamins are most commonly prescribed followed by IFA (Iron & Folic Acid), Calcium, Cyclopm, Meftal and Tranexamic acid (Chart-1). Table - III (Chart-2) showing the commonly prescribed antimicrobials were Metronidazole 39.8%, and Doxycycline 33%, Fluconazole 2.4%, and Ciprofloxacin 0.8%. The high percentage of antibiotics in our study setting is due to cultural beliefs about antibiotics, patient expectation to receive antibiotics. According to WHO 15-25% of prescriptions with antibiotics are present in most of the developing countries where infectious diseases are more prevalent. In Pakistan, it is 78% and in eastern Nepal, 79.9%.^[15] Various studies in India also report a high rate ranging from 40 – 80%.^[16] The prescribers need to be more cautious before prescribing antibiotic to avoid resistance and burden on the patient. In our study it shows two or three drugs are prescribed in most of the prescriptions (27.9% and 28.3%), single drug only in 2.8% cases and 5 or more drugs in 20% of cases (Chart-3). Most of the prescriptions had two or more drugs- suggesting a trend of polypharmacy. If polypharmacy is more it leads to reduction in quality of drug therapy, wastage of resources emergency of resistance, increase in cost of therapy and increased ADR. In this study it was about 20% cases only. It was found that most of the faculty members wrote inscription in almost all (88%) cases, where as superscription and subscription were written in 20% of cases only. Table - IV shows in inscription the dose, route, frequency, strength, dosage form, duration/no. of doses were mentioned in 83.2%, 77.8%, 78.5%, 68.3%, 79.6%, 72% of cases respectively. It was found that in a total of 2769 drugs generic names of drugs were mentioned in 35.8% cases only. In the study of 12 developing countries, the percentage of generic drugs prescribed was low in Nigeria (58%) and Sudan (63%) but was encouraging in Tanzania (82%) and Zimbabwe (94%).^[17, 18] Increase in generic drug prescription could reduce the burden of drug cost for the patients and reduce cost of pharmacies. In addition generic prescribing will eliminate or reduce the incidence of therapeutic duplication errors.^[19] Table - V shows it was found that patient name and age were written in 71.1% and 41.5% cases respectively. Prescriber's signature was found in 66% of cases. Diagnosis was mentioned in majority of cases (79.2%).

V. Conclusion

On the basis of finding of this study, use of antibiotics, adherence to essential drug list and generic prescription showed deviation from the established standards of WHO recommendations. The prescribing practices are not satisfactory as suggested by over prescription of antibiotics and lack of awareness of Essential Drug List (EDL). The prescribers should have an ethical duty to avoid exposure to pharmaceutical promotion. The present study found that the prescription writing does not confirm the stipulated guidelines in majority cases. Hence there is a need to improve prescribing practices by reorientation and training of the doctors, especially, house surgeons and post-graduates on the importance of prescription writing. This study will act as a feedback to the prescribers, so as to create awareness about the rational use of drugs. The hospital formularies should be formed based on local requirement, mainly of essential drugs and prescribers should be encouraged to prescribe from the same. There is a need for periodic audit of prescriptions at all levels of health care to avoid the negative outcome of inappropriate prescriptions.

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