

## PRESCRIPTION ERRORS IN THE DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY: A CROSS-SECTIONAL, OBSERVATIONAL STUDY

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### ABSTRACT

**Objective:** Prescription writing is an art. Writing a correct prescription in compliance with the WHO guidelines requires regular practice. Mistakes in prescription writing are inevitable. Hence, this study was done to analyze the prescriptions from the Outpatient Department of Obstetrics and Gynaecology for errors. To analyze the prevalence and types of common prescribing errors in the Outpatient Department of Obstetrics and Gynaecology.

**Methods:** This cross-sectional study was conducted in the Department of Pharmacy, Pondicherry Institute of Medical Sciences, Puducherry. 500 prescriptions from the Obstetrics and Gynaecology Outpatient Department were collected and analyzed. The study duration was 6 months (July-December 2014). The prescriptions were analyzed for errors.

**Results:** Our study revealed that 30.8% of the prescriptions had, at least, one error in them. The majority of the prescriptions had the doctors' sign and patient details written in them. The dose of the drug was missing in about 38% of the prescriptions. None of the prescriptions had Type A error in our study.

**Conclusion:** It was found that prescription errors are still prevalent. The prescribers' have to be updated about the prescribing guidelines and regular auditing should be done to avoid these errors.

**Keywords:** Prescription errors, Obstetrics and gynaecology, Classification of errors.

### INTRODUCTION

The prescription is a "written order from a registered medical practitioner, or new properly certified practitioners, such as dentist and veterinarian, together with a pharmacist to composite and distribute a specific medication for the tolerant." The transaction is escorted by guidelines for the pharmacist to a specific type and quantity of preparation for that patient. The prescription consists of the directions for individual regarding the mode of administration of drugs, as well as dispensed for him [1].

Medication errors are getting increasingly more established. These medication errors can be either (a) prescription errors or (b) dispensing mistakes. The issue of medication prescribing errors was little discussed until 1962 when Barker and McConnell in America (USA) first demonstrated that medication errors occur more frequent. They estimated a rate of 16 errors per 100 doses [2] and suggested how the apparent increasing rate of prescribing errors was proportionate to growing number of medications available. Subsequently, reporting systems for reporting medication errors were set up in the USA and Europe [3,4]. In 1995, a multidisciplinary group of 17 national organizations formed the National Coordinating Council for Medication Error Reporting and Prevention. Since, then there have been many other landmark developments with regard to reporting of prescribing errors [3]. Prescribing errors have led to the development of adverse drug events (ADEs), although fortunately most have a little risk or harm [5]. It is estimated that 3-24% involving prescriptions contain errors [6,7]. Prescribing errors develop a wide association with potentially serious health drawbacks. A large proportion of ADEs is related to prescribing errors, causing around 850,000 episodes of illness in the UK National Health Service [8-13].

Prescription errors have been defined as "any preventable event that might cause or end result in inappropriate medication or patient harm once the medication is inside the associated with the healthcare

professional, patient or consumer" [14]. Neville *et al.* have classified prescription errors into four categories based on the potential clinical outcomes [15]: Type A (potentially serious to patient); Type B (major nuisance-pharmacist/doctor contact required); Type C (minor nuisance-pharmacist must use professional judgment); and Type D (trivial).

Gaining guidance for physicians prescribing pattern being able to identify prescribing is actually the fundamental step in improving the level of quality of prescription and patient care. This research was carried out to analyze the prescribing errors in the Outpatient Department of Obstetrics and Gynaecology in a tertiary care hospital in South India with an aim to establish the nature and forms of medication prescribing errors.

### Objectives

1. To analyze the prevalence and types of common prescribing errors in the Outpatient Department of Obstetrics and Gynaecology
2. To classify the prescription errors into four categories based on the potential clinical outcomes.

### METHODS

- Cross-sectional observational study
- Sample size: Randomly selected 500 prescriptions (outpatients)
- Place: Department of Pharmacy, Pondicherry Institute of Medical Sciences
- Duration: 6 months (July-December 2014)
- The prescriptions were analyzed using the following criteria for any potential errors.

### Regarding prescription errors

The following definition for "prescription error" was used through the study: "A clinically meaningful prescription error occurs when, as a result of a prescribing decision or prescription writing process, there is

an unintentional significant elimination of the probability of treatment being timely and effective or increase in the chance of harm when compared to generally accepted practice" [16]. Errors in prescription writing were further categorized as: [16-20].

- Errors of omission (when rate or dose, concentration, dosage form, duration, frequency, route omitted and when prescriber signature missing)
- Abbreviated and non-standard drug names
- Error-prone abbreviations, symbols, and dose designations
- Prescribing one tablet of drug when to be found in more than a single strength of tablet
- Writing milligram when microgram was intended.

The prescriptions were also classified in line with the classification of Neville et al. [15].

**Statistical methods**

Data are expressed as descriptive statistics.

**RESULTS**

A total of 500 outpatient prescriptions from the Department of Obstetrics and Gynaecology were analyzed for errors and were classified.

Fig. 1 shows the percentage of prescriptions with errors. Of the 500 prescriptions scrutinized 30.8% had, at least, one error.

Fig. 2 shows the details of prescriptions with a deficiency in patient details.

Fig. 3 shows the percentage of prescriptions which were legible. Only 8% of the prescriptions were illegible.

Fig. 4 shows the percentages of various errors of omission. The other errors of omission like using abbreviated and non-standard drug names, error-prone abbreviations, symbols and dose designations, prescribing one tablet of the drug when to be found in more than a single strength of tablet, writing milligram when microgram was intended were not found in any of the prescriptions that were analyzed.

Fig. 5 shows the four categories of prescription errors based on classification put forth by Neville et al. [15].

**DISCUSSION**

The present study is the first of its kind to study and analyze the prescriptions from the Outpatient Unit of the Department of Obstetrics and Gynaecology for errors. In our study, we analyzed 500 prescriptions, out of which we found that 30.8% of the prescriptions were found to

have at least one error. A total of 975 errors were identified in the 500 prescriptions. It has been estimated that 3-24% of all prescriptions contain errors [6,7]. A study done by Khoja et al. showed 18.7% of errors out of 5299 prescriptions which is much less when compared to the present study [21]. Another study done by Sapkota et al. showed 1233 errors in 305 prescriptions, which is higher than the present study [22].

It was found that majority of the prescriptions had patients' details written in them. Only a minority of them did not have the patients' details: 4% did not have patients' name, 5% did not have an age of the patient, 7% did not have the sex written, and 3% did not have the patients' hospital number. The study was done by Nesar et al. showed a much higher rate when compared to our study [23]. Among these,

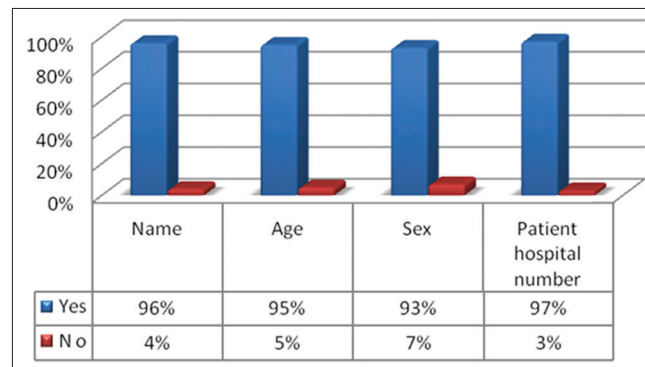


Fig. 2: Patient details

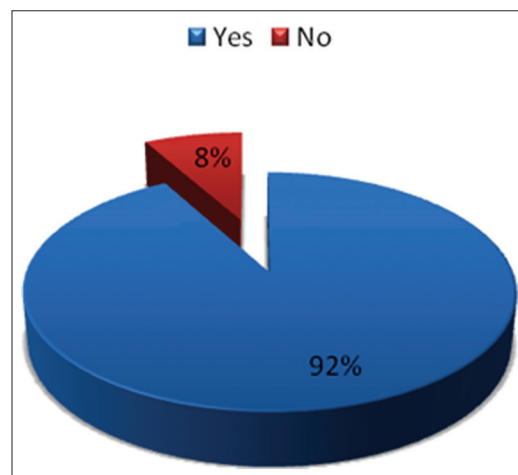


Fig. 3: Legibility

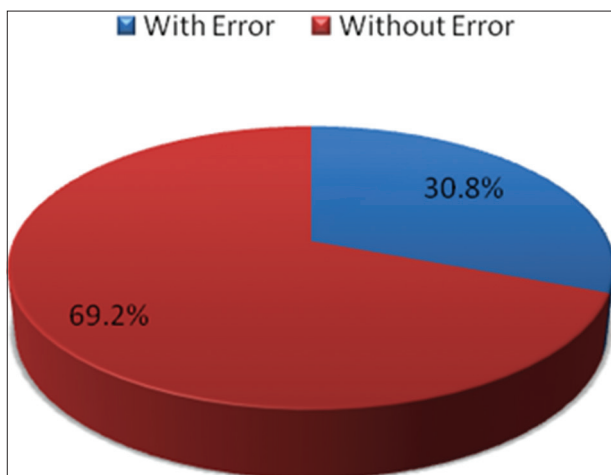


Fig. 1: Prescriptions with errors

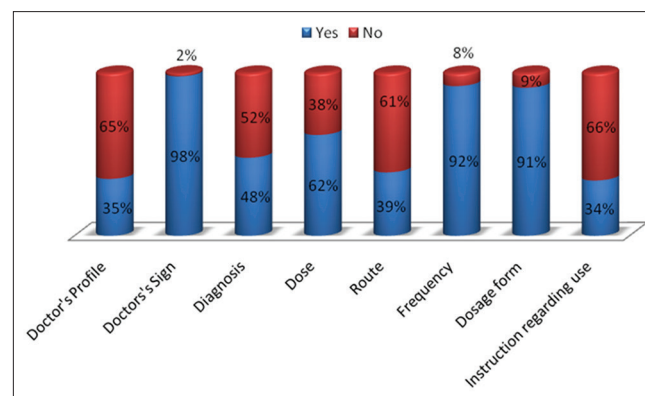


Fig. 4: Errors of omission

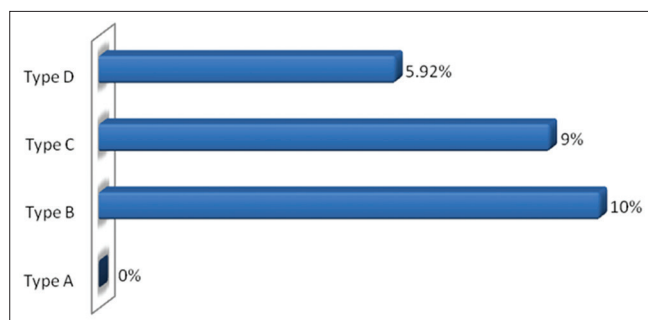


Fig. 5: Classification of prescription errors

patient hospital number is the most important, as it would help for future reference.

In our study, we found that majority of the prescriptions, 92% were legible contrary to the general belief that doctors' handwriting is bad. This also makes the work of the pharmacist easy as he/she can read the prescription without any difficulty. The probable reason for good legibility of prescriptions in our study could be because most of the times the prescriptions are written by junior residents or interns and not directly by the consultant themselves. Rekha and Saurabh in her study showed that poor handwriting of the doctors' was seen in 74.4% of the prescriptions, which is much higher than our study [24].

The major errors of omission that we found in our study were 65% of prescriptions did not have the doctors' profile, 52% of the prescriptions did not have the diagnosis mentioned, 62% of the prescriptions missed the route of administration, and in 66% of the prescriptions instruction regarding the use of the medication was missing. Sapkota *et al.* in her study showed that the errors of omission were much less compared to our study [22]. The results of Nesar *et al.* [23] and Poudel *et al.* [25] studies were similar to our study. In a study done by Ather *et al.* the rate of missing prescriber information was much high (90%) than our study [26].

In our study, we also categorized the errors based on Neville *et al.* classification of prescription errors. We did not find any Type A errors in our study. Type B errors were maximum (10%), which included illegible handwriting, missing a dose, and missing frequency where the prescribing physician has to be contacted for clarification of the same. This was followed by Type C errors (9%) which included missing route and dosage form, where the pharmacist has to use his discretion to dispense the drugs. The results of our study are in concordance with the study done by Khoja *et al.* [21].

Prescription errors are potentially preventable and concerted efforts by health providers, health consumers, and well-organized health delivery systems would lessen the incidence of such troubles [27].

## CONCLUSION

Research results indicated that the prescription writing errors are significant which highlights requiring conducting of educational programs to develop the prescription writing skills of the prescribers. This could help in reducing prescription flaws. This study highlights the need for intervention to reduce prescription error in judgment. An electronic prescription writing system can be introduced to minimize these errors.

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