

Prescription Audit in a Paediatric Outpatient Department: A Cross-sectional Study in Sub-district hospital**Radhika Parmar¹, Ashvin Mevada²**¹Third year Resident, Department of Pharmacology, Govt. Medical College, Bhavnagar 364001, Gujarat (India)²Assistant Professor, Department of Pharmacology Govt. Medical College, Bhavnagar 364001, Gujarat (India)

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Abstract:

Introduction: Prescription audits in healthcare settings play a crucial role in evaluating and enhancing the quality of patient care. We have assessed the prescription patterns and practices of physicians at a sub-district hospital, Gondal-36011, Gujarat, India. A study focusing on compliance with WHO-recommended core prescribing indicators. Additionally, we had examined the completeness of prescriptions concerning essential components such as patient details, drug details, and instructions to patients.

Methodology: A prospective, descriptive cross-sectional study was conducted in May 2024 at the pediatric outpatient department (OPD) of a sub-district hospital. We had analyzed 150 prescriptions. Data collection included demographic details, prescription completeness assessment, and adherence to prescribing standards. We conducted descriptive statistical analyses for detailed evaluation.

Results: Out of 150 prescriptions audited, notable findings included an average of 2.44 drugs per prescription. Prescription errors were prevalent, with missing patient information (age, weight, gender) in varying percentages, absence of prescriber identification in all cases, and not written in capital letters. Generic name usage was at 78.41%, and prescriptions adhering to NLEM comprised 75.68%. Antibiotics were prescribed in 23.33% of cases and injections in 3.33%. Essential prescription components such as dosage (39.33%), frequency (12%), duration (56%), and instructions to patients (84%) were frequently omitted.

Conclusion: The study highlights a critical need to improve prescription writing. It has identified common mistakes such as failing to provide instructions to patients, absent diagnosis, dose or treatment duration details, not using generic names, and illegible handwriting of prescribers. Educated and qualified medical professionals should follow the guidelines to write clear and efficient prescriptions. Effective strategies to improve prescription quality involve adopting electronic prescribing systems along with participating in continuous professional education programs. Regular prescription audits and sensitizing medical professionals are crucial for enhancing healthcare systems.

Keywords: Prescription audit, Healthcare quality improvement, WHO prescribing indicators, Medication error.

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Introduction

An audit in healthcare is a system used by health professionals to determine, appraise and improve the care of patients in an efficient way and it measures existing practice against a defined standard. [1]

Worldwide, irrational prescribing varies by region. Common patterns include excessive injections, polypharmacy, unwarranted antibiotics for infections, and injudicious use of nutraceuticals.

In this study, we had aimed to assess the prescription pattern and behaviour of treating clinicians at a sub-district hospital in Gondal, Gujarat-360311 using the WHO-recommended core prescribing indicators.

Methodology

A descriptive cross-sectional study was conducted in the paediatric outpatient department (OPD) of a sub-district hospital.

The study was approved by the local Institutional Review Board bearing approval certificate no.-1464/2024.

The study was conducted over a period of one month in the month may 2024 in which 150 prescriptions of outpatients department of paediatrics were recorded.

Assessment of each prescription was done using the WHO/International Network for the Rational

Use of Drugs Health Facility Prescribing Core Indicators as the primary focus.[2]

Moreover, completeness of prescription was analyzed for diagnosis, drug details, dosing,

duration, route of administration, and instructions to patients. We conducted descriptive statistical analyses as part of our detailed evaluation.

Results

Table 1: WHO Prescribing Indicators

WHO Prescribing Indicators	Prescriptions from OPD	
	%	Ideal value
Average numbers of drug per prescription	2.44 (n)	<3
% of drugs prescribed by generic name	78.41%	100
% of prescription with an antibiotic prescribed	23.33%	<30
% of prescription with injection prescribed	3.33%	<10
% of drugs prescribed from NLEM	75.68%	100

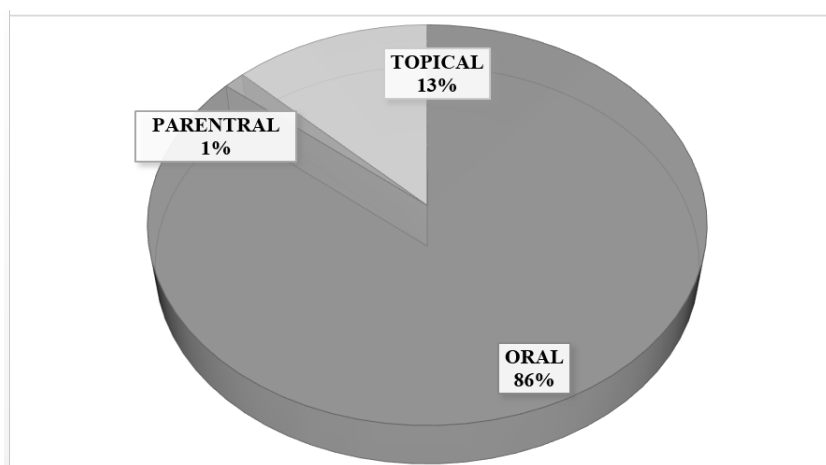


Figure 1:

Table 2: Age Group

Male child	55.33%
Female child	43.33%
Indeterminate	1.33%

Table 3: Age Group

0-1yr	18.66%
2-5yr	56%
6-10yr	18%
11-12yr	6%
Indeterminate	1.33%

Table 4: Detected Omission

Detected Omission	%
Dose	39.33
Frequency	12
Duration	56
Instructions to the patients	84

Discussion

Encouraging generic prescribing can enhance cost-effectiveness while maintaining therapeutic quality, although the current percentage of drugs prescribed by generic name was 78.41%.

Prescriptions lack prescriber identifiers and capitalization, crucial for doctor identification and

authenticity validation. Encouraging capital letters and electronic prescribing systems can prevent these errors. 39.33% lacked dosage, 12% missed frequency, and 56% omitted duration; 83.33% did not have diagnosis mentioned which is grave error in prescribing as far as pediatric patients are concerned which should be remedied. 23.33% of prescriptions included antibiotics in which some

are totally unwarranted. Beta-lactam antibiotics accounted for the majority of prescriptions at 45.71%, followed by aminoglycosides at 28.57%, macrolides and cephalosporins each at 11.42%, and sulphonamides at 2.85% which can engender resistance even in sensitive organisms which is grave concern nowadays.

Conclusion

The study reveals the critical need to improve prescription writing by identifying common errors, such as providing proper instructions to patients, mention in diagnosis, specifying dosage and duration details, ensuring legibility, and avoiding the use of brand names. Medical professionals must comply recommended guidelines for rational and efficient prescriptions.

Effective strategies to improve prescription writing can be achieved with adoption of electronic prescribing systems along with continuous updated knowledge through various educational programs. In addition, regular prescription audits and sensitization programs for medical professionals on contemporary policies and practices are crucial for

enhancing healthcare delivery in the long run for the community.

References

1. Sunny D, Roy K, Benny SS, Mathew DC, Naik GJ, Gauthaman K. Prescription Audit in an Outpatient Pharmacy of a Tertiary Care Teaching Hospital-A Prospective Study. *J Young Pharm.* 2019; 11(4):417-20.
2. World Health Organization. How to investigate drug use in health facilities: selected drug use indicators. World Health Organization; 1993.
3. Bekele NA, Tadesse J, Prescription auditing based on World Health Organization (WHO) prescribing indicators: A case of Dilla University Referral Hospital, *Journal of Drug Delivery and Therapeutics.* 2018; 8(6-s):21-25
4. Navadia KP, Patel CR, Patel JM, Pandya SK. Evaluation of Medication Errors by Prescription Audit at a Tertiary Care Teaching Hospital. *Journal of Pharmacology and Pharmacotherapeutics.* 2023; 14(4):275-284. doi:10.1177/0976500X231222689