ORIGINAL RESEARCH

"Prescription audit": assessing the compliance of prescription writing practices at a selected teaching hospital

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ABSTRACT
It is critical in the realm of healthcare to ensure the safe and effective usage of pharmaceuticals. Prescription auditing is a significant approach for supporting healthcare facilities, particularly teaching hospitals, in analyzing and improving their pharmaceutical practices. This technique comprises a thorough evaluation of prescription patterns, adherence to physician advice, and overall drug management in a hospital context. Teaching hospitals, as hubs of medical research and instruction, play a critical role in deciding the future of healthcare.
Objective: Of this is to evaluate the prescription writing compliance with defined guidelines and accepted standards at a selected teaching hospital and to determine the legibility of the prescriptions.
Methods: Was prospective, cross-sectional study conducted on various inpatient and outpatient prescriptions for three months 2023. The study
Results : The conformance of the various parameters with descriptive statistics is above 60 plus percentage out of 700 out patients and in patient's prescriptions and also study result helped us to strictly monitor and continuous audit to meet the compliance level.
Conclusion: All clinicians must be educated on rational prescribing by training, routine exams, monitoring, and providing non-judgmental feedback. Prescription auditing on a regular basis can help enhance prescription quality as well as patient care quality. To help improve prescribing standards and reduce prescription errors needs to adopt a consistent prescription policy.
Key words: Compliance level of prescriptions, teaching hospitals, inpatients and outpatients

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INTRODUCTION

Teaching hospitals have a distinct and crucial role in the healthcare environment. They serve as hubs for medical education, research, and improved patient care, making them dynamic spaces where knowledge and innovation converge with the daily provision of healthcare services. The emphasis on academic excellence and the training of medical practitioners in these institutions offers a unique set of difficulties and opportunities in the field of drug management. The safe and effective use of medications is a vital pillar of healthcare, and teaching hospitals must adhere to the highest standards in this regard. The complexity of medical cases, the engagement of medical trainees, and the ongoing evolution of medical knowledge all contribute to an atmosphere in which medication practices must be carefully scrutinized andevaluated[1].
Prescriptionauditingemergesasacriticaltoolinthisscenario.Itentailsacomprehensive examination and study of prescription trends, medication adherence, and associated clinical processes within the teaching hospital. By performing prescription audits, these institutions can acquire useful insights into their pharmaceutical practises, identify potential dangers, and implement evidence-based improvements[2].
In the field of healthcare, ensuring the safe and effective use of medications is essential. Prescription auditing is an important technique for assisting healthcare facilities, especially teaching hospitals, in evaluating and improving their medication practices. This procedure entails a comprehensive review of prescription patterns, adherence to clinical recommendations, and overall medication management in a hospital setting. Teaching hospitals, as centres of medical research and education, play a vital part in determining the future of healthcare. They not only provide patient treatment but also educate the futuregenerationofhealthcareprofessionals[1,2].As a

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result,itisessential thattheseinstitutionsmaintain the greatest standards in medication practices in order to serve as examples for developing medical professionals. In the face of an ever-changing healthcare landscape, teaching hospitals must embrace innovation and adapt to changing guidelines. This includes implementing digital tools for prescription management, remaining up to date on clinical guidelines,anddevelopinganaccountabilityandlearning culture[3].Inthissetting,theprescription audit becomes a vital instrument for promoting safe and effective medication practices. Its purpose is to assess the existing condition of prescribing inside the teaching hospital, compare it to standard practice, and encourage improvements that benefit both patients and medical professionals & trainees[4]. Primary healthcare in India is dominated by private practitioners. Individual community-based clinicians' prescription practises, as well as the number of pharmaceuticals prescribed, require consistent monitoring. The WHO drug use indicator guidelines must be promoted among primary care practitioners and should not be limited to institutions with a formulary[5]. The relevance of reviewing prescription patterns, analysing the impact of these practices on patient outcomes, and suggesting opportunities for improvement is explored in prescription auditing at a teaching hospital. Teaching hospitals canimprove patient safety, improve treatment outcomes, and contribute to the continued advancement of evidence-based medicine through this evaluation. We identified the primary goals, techniques, and expected outcomes of a prescription audit in a teaching hospital. By doing so, we hope to draw light on the importance of this process in fostering safe, effective,and responsible drug administration inside healthcare facilities that function as learning and healing environments[6].

OBJECTIVES

1. To evaluate the prescription writing compliance with defined guidelines and accepted standards at a selected teaching hospital.
2. To determine the legibility of the prescriptions.

METHODOLOGY

This research was conducted in a teaching hospital in south India. A prospective, cross- sectional study was conducted by collecting various inpatient and outpatient prescriptions for three months. The objective of this study is to evaluate prescription writing practices at the teaching hospital thoroughly, determine prescription legibility which will help in identifying areas for improvement, and implement methods to improve medication safety and effectiveness for the benefit of patients and the teaching centre. Data was collected using a simple random sample technique and a prospective analysis and sample size was 700 prescriptions. Ethics committee approval were taken before starting the study.

INCLUSION CRITERIA: Prescriptions received in the pharmacy from both IP and OP patients were considered between 10 a.m. and 4 p.m.

EXCLUSION CRITERIA: Prescriptions received after 4 p.m. and emergency patient's prescriptions were not considered.

SOURCE Of DATA: Inpatient and outpatient prescriptions were gathered, and the data was saved and documented. Scrutiny processes were implemented, and the results were re-validated by Quality cell for further investigation. There was no patient & professional interaction, and only the patients' prescription forms were referred to, and it was a regular audit in accordance with the NABH Standards and permission was obtained from the hospital administration. Data was gathered and processed by competent pharmacologists utilising computer software. Descriptive statistic used for the data analysis such as mean, frequency, standard deviations and percentage.

The prescription audit was carried out based on a few important elements. The prescriptions of both inpatients and outpatients were thoroughly reviewed for compliance and noncompliance with the parameters listed below:

1. Patient Details including Age, Sex
2. Date
3. Unique Identification of the patient number
4. Drug names in capitals
5. Legibility
6. Dosage Form
7. Drug names written correctly
8. Dose
9. Routes
10. Frequency
11. Diagnosis
12. Particulars of Doctor with seal

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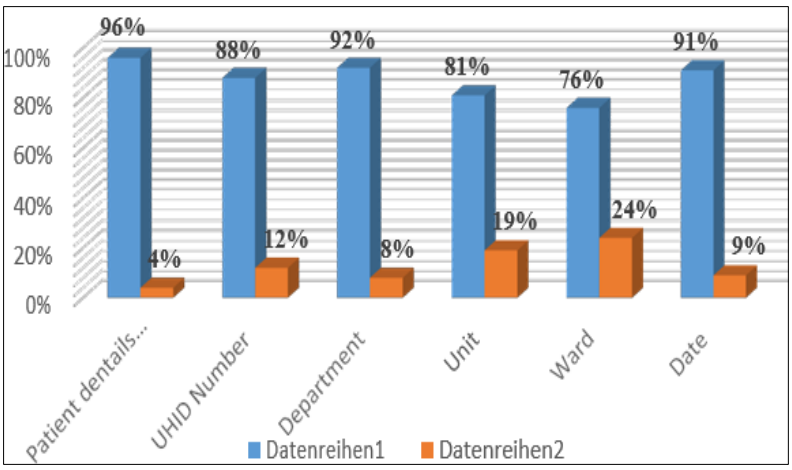
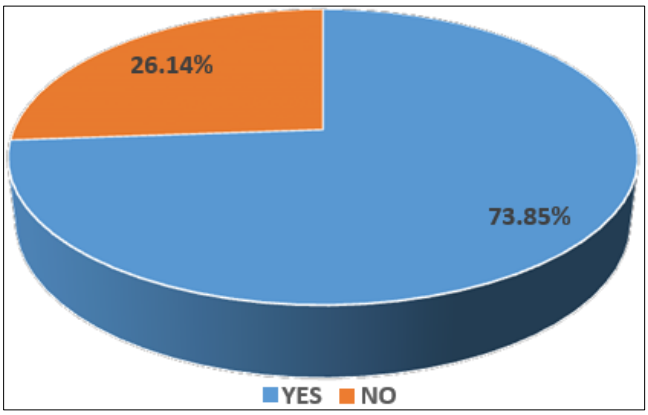


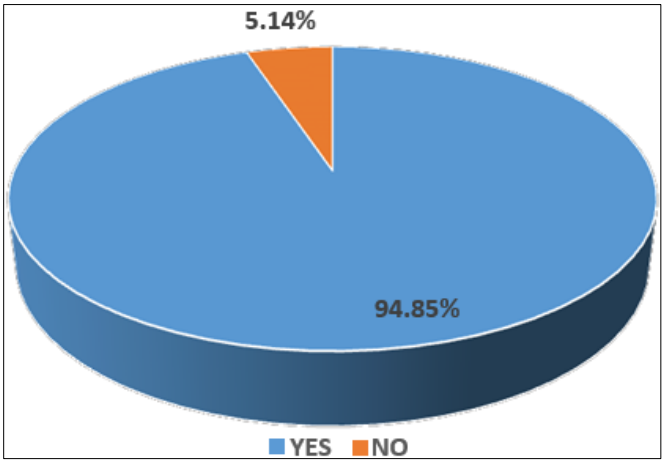
Graph 1: Patient identification details

Graph 1 explains how the patient information on the prescriptions is consistent. Nearly 96% of the patient's information, including age and gender, was available, while 4% was not. 92% of the time, the department name was provided, and 8% of the time, the UHID number was mentioned. Only 19% of the unit was not mentioned compared to 81%. 76% of prescriptions had ward information, while 24% were missing, 91% had dates indicated, and 9% did not.



Graph 2: Drug names in capitals

Graph 2 depicts the uniformity of the prescriptions that mentioned the drug names in capital letters; 73.85% of them were written in capital letters, whereas 26.14% were not.



Graph 3: Legibility

Graph 3 will show that 94.85% of prescriptions are legible and 5.14% are not.

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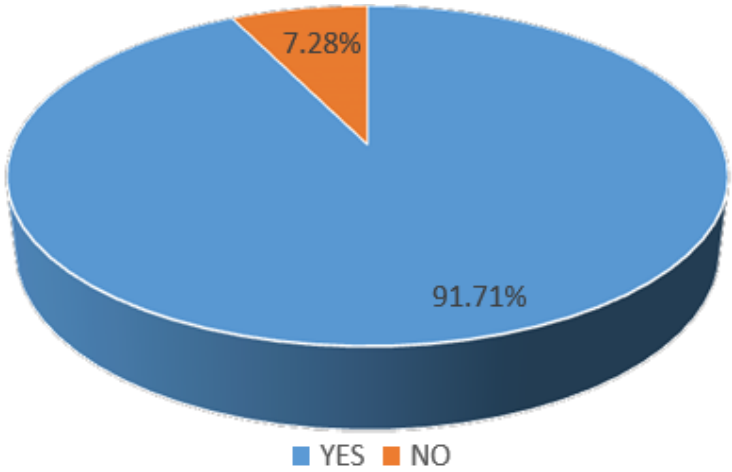
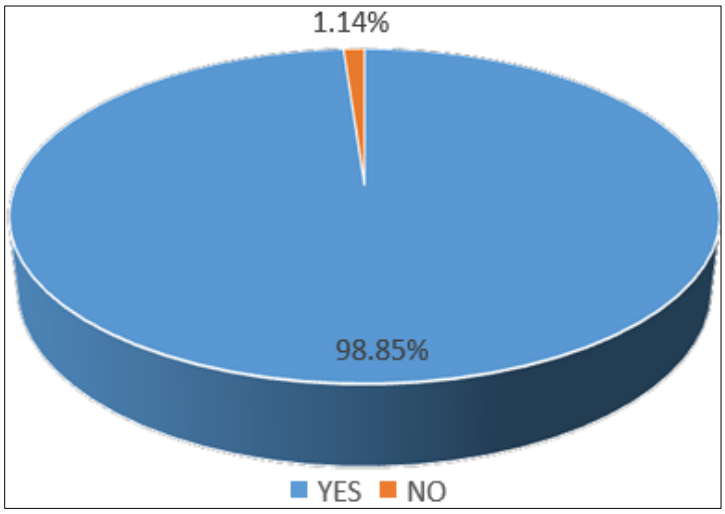


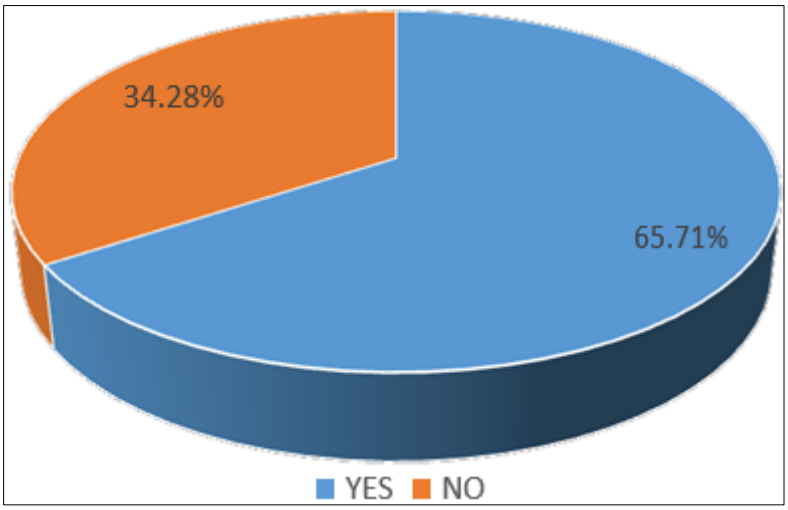
Graph 4: Dosage Form

Graph 4. Evidence suggests that 91.71% of prescriptions mentioned the dose form, whereas just 7.28% did not.



Graph 5: Drug names written correctly

Graph 5 explains that 98.85%% of prescriptions had the drug's name correctly written, whereas just 1.14% did not.



Graph 6: Dose

Graph 6 shows that 65.71% of prescriptions mentioned the dose, while 34.28% did not.

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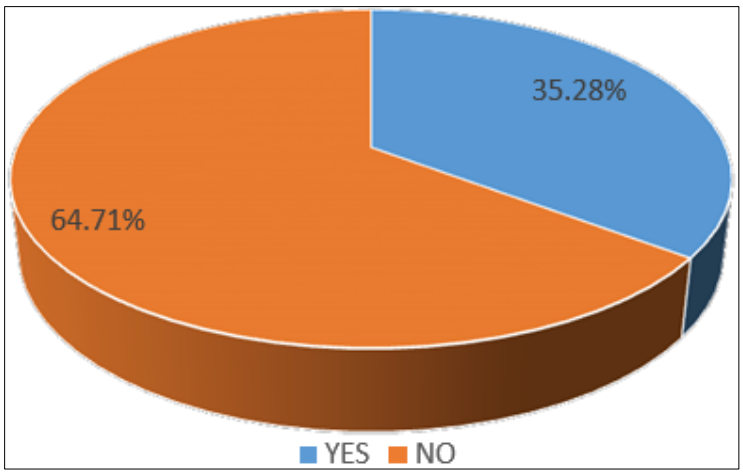
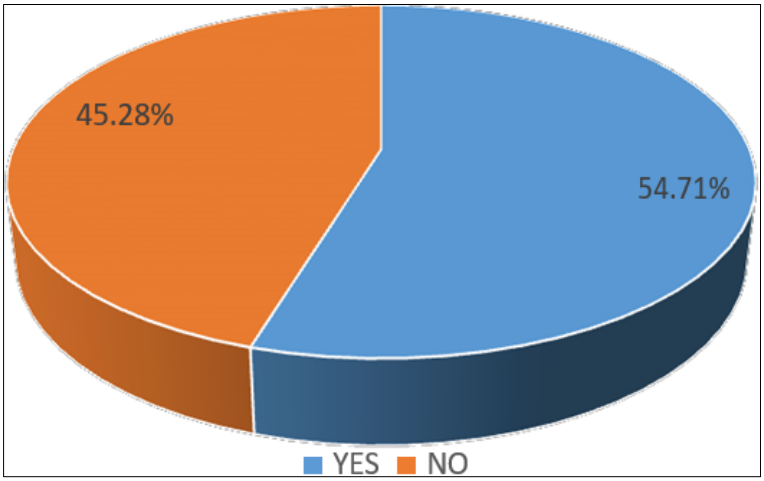


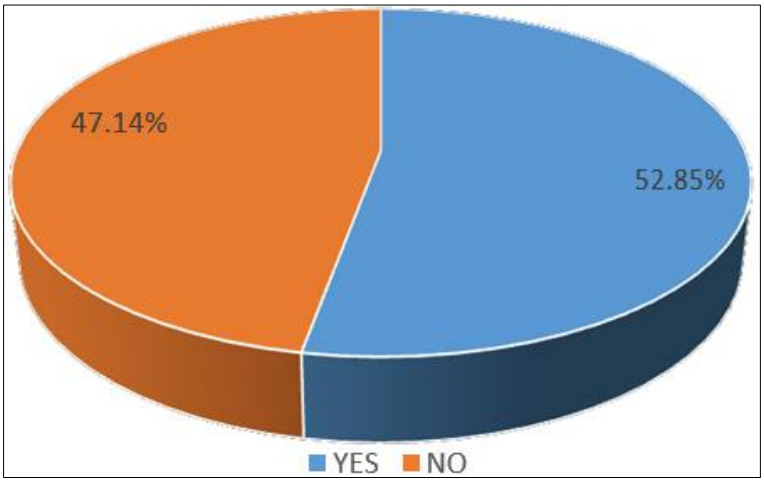
Graph 7: Routes

Graph 7 demonstrates that 64.71% of prescriptions suggest the drug route, while 35.28% do not.



Graph 8: Frequency

The frequency of the drugs indicated was 54.71%, while 45.28% of the prescriptions were not suggested, according to Graph 8.



Graph 9: Diagnosis

The graph 9 demonstrates that almost 52.85% of prescriptions specified the diagnosis, whereas 47.14% did not.

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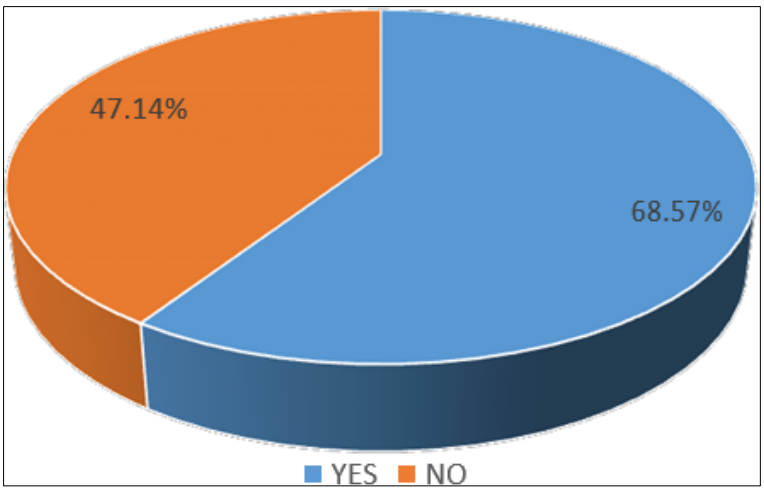

Graph 10: Particurs of Doctor with seal

Graph 10 demonstrates that 68.57% of prescriptions had the information about the doctor with the seal, while 47.14% of prescriptions did not.

Table 1: Responses of Conformity of the different parameters

Variables	%		Mean	Median	Standarddeviation	Range	Confidence Level (95.0%)
	Yes	No					
Drug names in capitals	73.85%	26.14%	0.49	0.49	0.33	0.47	3.03
Legibility	94.85%	5.14%	0.49	0.49	0.63	0.89	5.69
Dosage Form	91.71%	7.28%	0.49	0.49	0.59	0.84	5.36
Drug names written correctly	98.85%	1.14%	0.49	0.49	0.69	0.97	6.2
Dose	65.71%	34.28%	0.49	0.49	0.22	0.31	1.99
Routes	35.28%	64.71	32.5	32.5	45.5	64.3	408.8
Frequency	54.71%	45.28%	0.49	0.49	0.06	0.09	0.59
Diagnosis	52.85%	47.14%	0.49	0.49	0.04	0.05	0.36
Particulars of Doctor with seal	68.57%	31.43%	0.57	0.57	0.15	0.21	1.36

Table 1 displays the conformity of the various parameters with descriptive statistics, where the prescriptions fulfilled 73.85% of the parameters with capital letters, and 26.14% of the parameters with roughly 0.49 as the mean & median, 0.33 as the standard deviation, 0.47 as the range, and 3.03 as the confidence level. While 94.85% of the prescriptions were legible and met conformance requirements, 5.14% were not, with values of 0.49 for the mean & median, 1.63 for the standard deviation, 0.89 for the range, and 5.69 for the confidence level.

The dosage form was mentioned in 91.71% of prescriptions, drugs names were correctly written in 98.85%. The dose was specified in approximately 65.71% of prescriptions and 34.28 percent was not. The routes are written in 35.28% of prescriptions. In 52.85% of the prescription's diagnosis was mentioned, while 47.14% went unmentioned. In 68.5% of prescriptions contained doctor's seal with signature. The mean, median, and standard deviation were each 0.57, the range was 0.21, and the confidence level was 1.36.

DISCUSSION

In our study, we audited 700 inpatient and outpatient prescriptions for three months based on prescription parameters and conformity such as Drug names in capitals, Legibility, Dosage Form, Drug names written correctly, Dose, Routes, Frequency, Diagnosis, Particulars of Doctor with seal etc. The audit was done to assessing the compliance of prescription writing practices in our tertiary teaching hospital. Both inpatient and outpatient prescriptions were analysed. The major goal was to analyse the prescription writing conformity with stated criteriaand accepted standards at a selected teaching hospital, as well as the legibility of the prescriptions and find out the gaps[7].

According to a study by Subhrojyoti Bhowmick S *et al*., an audit revealed that only 69.24% of medicine cards had captured drug allergy, 99.53% had mentioned the route of administration, 99.85% had mentioned the dose strength, 99.89% had mentioned the frequency of dose, and only 75.35% had mentioned the patients' indication/diagnosis. Surprisingly, 90.75% of pharmaceutical cards contained an error prone abbreviation, which was a serious source of concern[8]. Our study also supports

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this audit and results show non-conformance of the variousparameters. In 73.85% of the prescriptions drug names written in capital letters, whereas 26.14% are not, While 94.85% of the prescriptions were legible and conformed, 5.14% were not[8].

In our study, dosage form was mentioned in 91.71% of prescriptions, whereas it was partially or not mentioned in 7.28%. Nearly 98% of prescriptions, drug name was written correctly. Trhis is mainly due to repeated sensitization of healthcare providers regarding the importancewriting the prescriptions correctly. Another study conducted by Meenakshi *et al* also showed similar results[9].

In our study, the dose of drugs was specified in 65.71% of prescriptions and 34.28 percent was not. The routes of administration were mentioned in only 35.28% of prescriptions whereas it was non-compliance in 64.71% of prescriptions. The frequency of drug administration was mentioned in 54.71% of prescriptions whereas it was not mentioned in 45.28% of

prescriptions.Thediagnosiswasmentionedinonly52.85 %oftheprescriptions.Doctorsignature with seal containing doctor's details including registration number was present in 68.5% prescriptions. Studies conducted by Solanki ND *et al* and Mishra S *et al* showed similar results[10,11].

So there is room for improvement in prescribing patterns in areas such as writing generic names of pharmaceuticals, vital drugs, legible and complete prescriptions, and prescriptions written in capital letters.

CONCLUSION

According to WHO criteria, prescription quality among health providers was low in both patient information and prescribing indicators. All clinicians must be educated on rational prescribing by training, routine exams, monitoring, and providing non-judgmental feedback. Prescription auditing on a regular basis can help enhance prescription quality as well as patient care quality. To help improve prescribing standards and reduce prescription errors needs to adopt a consistent prescription policy.

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