VOLUME - 12, ISSUE - 04, APRIL - 2023 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Healthcare

ENHANCING PATIENT SAFETYA PRESCRIPTION AUDIT IN A TERTIARY CARE HOSPITAL

Dr Aabha Gupta* Adarsh Hospital,Sanganer,Jaipur *Corresponding Author

Dr Rukmini RBH Hospital Jaipur

Dr Radhika SDMH hospital Jaipur

ABSTRACT Prescription audits are an important aspect of patient safety practice. Medication errors are a common occurrence and need constant monitoring and audit for ensuring right medicine to right patient ,at right time with right dose and right administration and documentation. Medication error is any preventable event that may cause or lead to inappropriate medication use or patient harm in process of prescribing, order communication, product labelling, packaging, and nomenclature, compounding, dispensing, distribution, administration, education, monitoring, and use **Objective-** To audit the IPD prescriptions of the different wards and critical care areas for quality improvement in medication management **Methodology-** A retrospective random sampling of 506 IPD files of June 2022 -July 2022 including sample from wards and .ICU were included and team of trained auditors audited them according to a predefined checklist . The findings were subject to analysis and reports generated **Results-** The 23 point checklist based audit findings revealed good compliance in documentation of the various audit points. Improvement was needed in capital letters use and writing of date and time along with authentication details .More detailed audits and in depth analysis is needed for further improvement **Conclusion-** The audit showed good compliance in documentation.There is need for focus audits for high risk drugs and doses of high alert medicines along side this audit

KEYWORDS : medication error, prescription error ,patient harm, patient safety ,quality ,medication management

INTRODUCTION

Medicine has been defined as any substance or substances used in treating disease of illness .and are generally safe when used as prescribed or as directed on the label, but there are risks in taking any medicine(1).

The idea of prescriptions dates back to beginning of history including medications and a writing system (2 Modern prescriptions are actually extemporaneous prescriptions from the latin ex tempore meaning the prescription is written on the spot to for r specific patient with specific ailment (3)

The other side of medication use for cure is the associated risk of side effects .Each year in the United States, medication use results in harm-adverse drug events causing more than one million visits to hospital emergency departments(4)

The United States National Coordinating Council for Medication Error Reporting and Prevention defines a medication error as "any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer. Such events may be related to professional practice, health care products, procedures, and systems, including prescribing, order communication, product labelling, packaging, and nomenclature, compounding, dispensing, distribution, administration, education, monitoring, and use(5)

Prescription errors encompass those related to the act of writing a prescription, whereas prescribing faults encompass irrational prescribing, inappropriate prescribing, under prescribing, overprescribing, and ineffective prescribing, arising from erroneous medical judgement or decisions concerning treatment or treatment monitoring [6,7

The ten principles of good prescribing include according to the British Pharmacological society include having an accurate diagnosis if possible, having knowledge of past medication, allergies, physiological parameters,patient expectations and safe,effective and cost effective individualized benefit; risk ratio for patient. The rules also include adherence to national guidelines and formularies as appropriate, and should be unambiguous legal prescriptions with awareness of benefits and side effects for the patient and should be communicated clearly to patients and carers about monitoring and other advice and finally should prescribe within limitations of knowledge and skills and experience.(8)

A definition states that a 'clinically meaningful prescribing error occurs when … there is an unintentional significant reduction in the probability of treatment being timely and effective or increase in the risk of harm when compared with generally accepted practice'[9]

According to the theories of human error, errors in prescribing, as in any other complex and high-risk procedure, are occasioned by and depend on failure of individuals, but are generated, or at least facilitated, by failures in systems [10) .

An audit is defined as an official examination of the quality or condition or something -as defined by cambridge dictionary(11).

Like every quality procedure and policy being audited is part of the QMS of the systemTo ensure quality prescribing practices audit are important and educational and lead to improvement and continual improvement

As part of the quality initiative prescription audits are held regularly and accordingly corrective and preventive action are taken .This audit was part of the routine monthly audit held in the hospital

OBJECTIVE -

To do retrospective audit of the IPD prescriptions of the different wards and critical care areas for quality improvement in medication management

METHODOLOGY -

A random sampling of 506 IPD files of June 2022 -July 2022 including sample from wards and .ICU were included in the retrospective observational audit and team of trained auditors from Quality team and pharmacist audited them according to a predefined checklist .The audit was part of the quality audits of the 500 bedded tertiary care hospital in Jaipur Rajasthan The findings were subject to analysis and reports generated

RESULTS

The scoring was : Non compliance -0, Partial compliance -1,. Full compliance -2,Not applicable -3

As fig 1 below demonstrates demographic profile had maximum compliance ,date and time had more of partial compliance as time was not mentioned in majority prescriptions .Writing medication in capital had major non compliance and partial compliance as only ICU prescriptions were in capital.Handwriting was clear and legible to partial extent only 162 had complete compliance

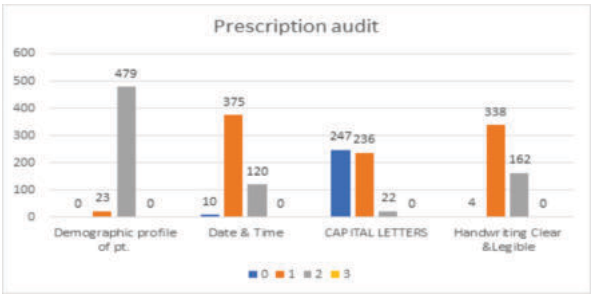


Fig 1

In fig 2 the aspects of compliance to drug drug interaction was audited and majority had very few drugs to consider for interaction scored as 3 .In 122 compliance was good and there was no non compliance

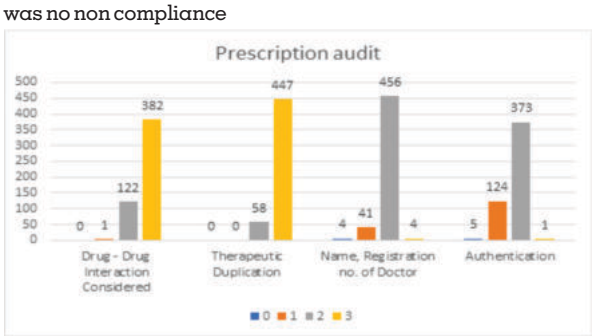


Fig 2

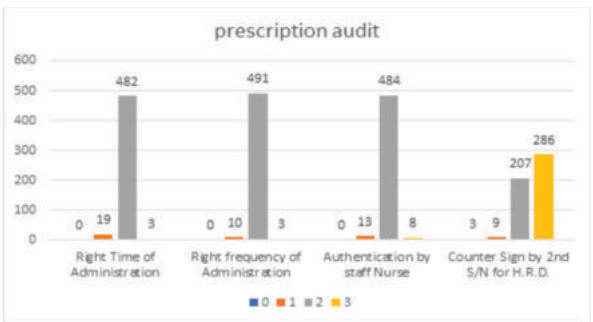


Fig 3

The compliance to documentation of time ,frequency of drug administration was fully compliant majorly, authentication by nurse was also compliant ,in countersignature of HRD drugs 286 were not HRD and the rest were majorly compliant

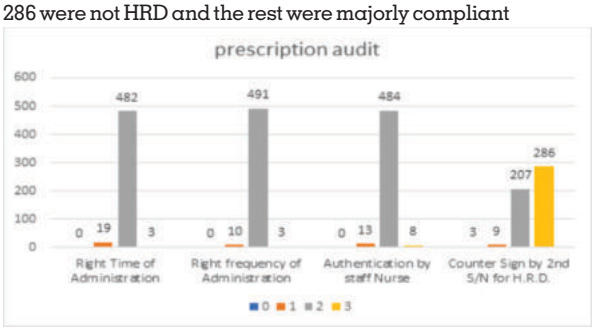


Fig 4

There was excellent compliance in allergies documentation, and right drug,right dose and right route .with no non compliance except in 5 cases of allergy documentation

Fig 4

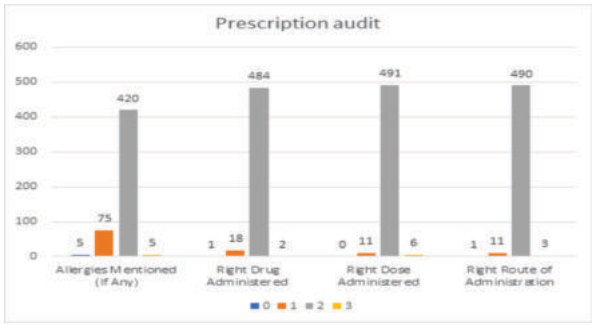
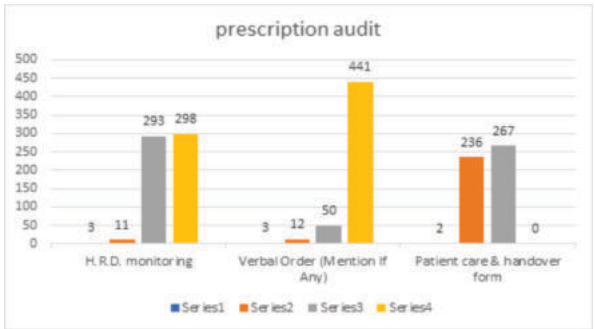


Fig 5

HD drug monitoring was compliant in cases where drug was [prescribed except in 3 files of non compliance and 11 of partial compliacne .Verbal order policy was followed fully and in 12 partially followed where it was applicable .Patient care and handover form for medications entries was largely compliant and partially compliant in 236 .



DISCUSSION

The prevalence of prescribing errors can vary depending on the setting, patient population, and study design. And have significant implications for patient safety and outcomes

Various studies support the fact that medication orders errors were common A study in a Lebanese hospital found that prescribing errors occurred in 9.9% of medication orders and were more common in patients with chronic diseases.(12)

A study in Kuwait study found that medication errors occurred in 23.3% of prescriptions and were often related to incorrect dosages or drug interactions.(13)In a pediatric ward in Kuwait a study found that medication prescribing errors occurred in 5.5% of medication orders and were most commonly due to incomplete or unclear prescriptions (14) Dose related errors were found to be commonest in a study of IPD patients with 8.9% medication errors (15)"A study in ICU found a very high number -78% errors and related mainly to communication issues between healthcare personnel (16)

Learning from medication errors - NHS Resolution initial data for medication errors indicates that anticoagulants, opioids, antimicrobials, antidepressants, and anticonvulsants are the most common medications to be implicated in incidents.(17)
The 'Did You Know' series covers(17)

- Anti-infective medication errors
- Extravasation
- General Practice medication errors
- Heparin and anticoagulants
- High-level medication errors
- Insights into medication errors
- Maternity

CONCLUSION

Prescription audits are done to monitor and audit compliance of prescription writing against acceptable standards .

Medication errors may occur during prescribing, order communication, product labelling, packaging, and nomenclature, compounding, dispensing, distribution, administration, education ,and monitoring.

A prescription includes complete demographic details, date, time, allergies documentation, ensuring no drug drug interaction, no therapeutic duplication ,capital letters use,right drug, right time, right dose, right administration ,right route, HRD drug monitoring ,authentication by doctor ,proper verbal order documentation and dual verification for HRD drugs .

The maximum non compliance was in use of capital letters for prescription .There can lead to errors in dispensing. The authentication of time was also partially compliant and name and authentication of name of doctor also needed improvement

The main concern are in areas of high risk drugs anticoagulants, opioids, antimicrobials, antidepressants, and anticonvulsants but the documentation audit could not find major deficiencies.

More audits and training need to be done to monitor the administration of drugs for improving medication management

Suggested actions-(17)

- Clinical pharmacologist manager for pharmaceutical safety
- report all medication incidents with appropriate Corrective and preventive action
- policies and procedures exist for medications
- Ensure prescribing audits are routinely carried out
- Antimicrobial stewardship
- Ongoing and regular Trainings

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