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AUDIT

AUDIT OF DRUG PRESCRIPTION ERRORS IN THE EMERGENCY DEPARTMENT OF A TERTIARY CARE HOSPITAL

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INTRODUCTION

Medication errors are frequent in the emergency department (ED). The unique operating characteristics of the ED may exacerbate their rate and severity. They are associated with variable clinical outcomes that range from inconsequential to death.[1] This audit was aimed to see the frequency and nature of medication errors so that the process can then be improved.

METHOD

In our audit, thirty files of various patients were randomly selected on convenience basis from 1st August to 31st August 2016 from the Emergency Department, Shifa International Hospital, Islamabad. Physician orders were checked for prescribed medication and the following 7 parameters were analysed for any errors:

1. Form: injection/infusion/tablet/-syrup/ampoule
2. Name: generic/brand
3. Dose
4. Units: mg/gm/ml/cc/litres/mcg
5. Route: IV(Intra-venous)/ IM(Intra-muscular)/ PO(per oral)/ IN(Intra-nasal)/ Nebs(Nebulisation)
6. Administration: Any special instructions e.g. over 2 hours/stat/continuous infusion/after test dose etc.
7. Signatures of the prescribing doctor.

Frequencies and percentages of correct and incorrect entries were calculated.

RESULTS:

A total of 213 prescriptions were reviewed from the thirty patient files during the entire month. The results are shown in Table 1.

The form of medication was not mentioned in 9.9% of the prescription order which is very dangerous for the patient as incorrect orders can lead to harm. Brand names were used commonly instead of generic names which can result in confusion among the dispensing pharmacist as many medications have similar names with slight differences in spelling leading to grave errors. This accounted for most of the errors (125/220, 58.7%) identified during our audit and this is the area where most efforts need to be focused upon. Other common mistakes included not mentioning the strength of fluid for example 0.9% Normal saline, 10% dextrose water etc, specific type of medicine was not mentioned such as prescribing insulin but not mentioning whether regular, long acting or short acting is required. There were quite some spelling mistakes in ordering medication. The correct dose was not mentioned, routes of medication were missed, and some prescriptions carried no signatures, or the writing was illegible so that the ordering doctor was not easy to identify. These errors and frequencies are also presented in a pie chart.

DISCUSSION

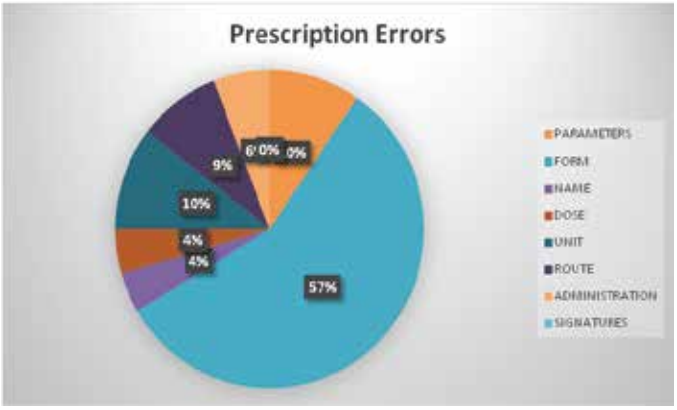
Emergency department has the unique fast paced care delivery which has the potential for increased risk of medication error. Emergency physicians (Eps) are not very familiar with their patients due to limited contact time during the stay of the patient in the department. This limited exposure results in less than optimal history at times and incomplete drug list at other times when multiple attendants give drugs lists different from each other. The shift pattern of the EP work also bars the continuity of care, thus putting them at the disadvantage of prescribing medications with incomplete knowledge. During odd hours of the night, the safety check in terms of the pharmacist may also not be available thus increasing the risk of medication error not being identified and promptly corrected. EPs must often administer a potentially dangerous medication on an emergency basis to a critically ill or injured patient, increasing the risk that critical safety checks may be omitted. Lastly, a reliance on oral orders, which is inherent in emergency medicine, increases the risk that a potentially ambiguous medication order is misinterpreted or misunderstood and thus administered without check, resulting in medication error.[2]

AUDIT

Prescribing medication and administration is a very complex task with an inherent risk of error that needs to be understood in order to provide safer care to the patient. Each stage of drug ordering and delivery which includes prescribing, transcribing, dispensing, administration, and monitoring can be the source of a breach causing harm to the patient.[1] In order to prevent the medication error that leads to adverse events, a full disclosure to the patient's treating physician and to the patient is required. In order to avoid the punitive culture, the hospitals should implement a system for confidential

reporting of all medication errors as part of their quality assurance programs. Details of these errors should also be part of the patients record for the future utilization.[1] This helps patients themselves and their treating physicians regarding decision making in the future. All such medication errors can be viewed as an important learning exercise to achieve a zero defects system.[2] All emergency departments must strive to build systems with this goal in mind to enhance the trust of the patients on their processes and care delivery.

Table.1 Frequencies & percenatges of Erros in Prescription writing



PARAMETERS	Frequency of errors (n=220)	Percentage of Errors (%)
FORM	21	9.9
NAME	125	58.7
DOSE	9	4.22
UNIT	10	4.69
ROUTE	23	10.8
ADMINISTRATI	19	8.9
SIGNATURES	13	6.1
Total	220	100%

Switching to electronic medication ordering can be a potential solution to care for all these parameters. There will be no issue of legibility of hand-written prescription or incorrect spellings. The system will generate generic names for each medicine giving the options to choose from intravenous to oral preparations with standard doses of each form. Such systems are in place through out hospital in in-patient areas, but emergency department still remains a critical place for which this still has to be implemented. Any potential drug interactions in the prescription can be identified by the electronic system and can also alert the physician about possible drug allergies. Till the time manual prescription orders are in place, educating doctors about prescription writing and confirmatory checks by the nursing staff and pharmacist can reduce these grave errors which might result in harm to patients.

CONCLUSION

Medication errors are frequent in emergency departments. The audit showed that the most frequent mistake was to use brand names in place of generic names (56.8%) and the least frequent error was to write a wrong dose of medication (4.1%) which can cause the most damage to the patient in terms of being over or under treated. We conclude by suggesting that a process of continuous learning is established to improve the system. In addition to that, check points either manual or computerised should be in place to minimise any such error to occur.

REFERENCES

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