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Original Article

The Role of Clinical Pharmacist in Reducing Medication Errors in Out Patient Counseling Department in a Secondary Care Hospital

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ABSTRACT

Introduction: Dispensing errors are believed to be the most prevalent type of medical error and are a significant cause of preventable adverse events. **Aim and Objective**: The aim of this study are to discuss the underlying factors in dispensing errors, health care uncertainty and therapeutic outcomes, and to identify the extent of human- and system-based sources of errors by exploring hospital pharmacists' attitudes and dispositions to die and uncertainties; and the implications for patient safety in a tertiary hospital. **Methodology:** A cross-sectional survey of clinical pharmacists in secondary care hospital in Guntur was conducted over a period of 4 months from october through january 2015. a stratified random sample of 64 patient's data was collected.these study was conducted in out patients department. **Results:** Out of 64 patients 34(54%) patients were male and 30(46%)patients were female. 41% patients were comes in the age range of 41-60 years .most of the errors (32) were observed in general medicine only. these errors are gradually decreased from october to january. **Conclusion:** In conclusion, majority of hospital pharmacists indicated that the risk of dispensing errors was increasing and most of them were aware of dispensing errors.the profession needs to be proactive and standards must be set appropriately high (i.e. zero error tolerance) clinical pharmacist must communicate with physicians , nursing staff and other hospital pharmacist thereby we can minimize the errors.

1. INTRODUCTION

Dispensing errors are defined as any inconsistencies or deviations from the prescription order such as dispensing the incorrect drug, dose, dosage form; wrong quantity; inappropriate, incorrect, or inadequate labeling, confusing, or inadequate directions for medication use; incorrect or inappropriate preparation, packaging, or storage or medication prior to dispensing (Szeinbach et al., 2007). Many prescription errors are made during the various phases of medication usage in the hospital environment; dispensation is one of the most sensitive phases of the

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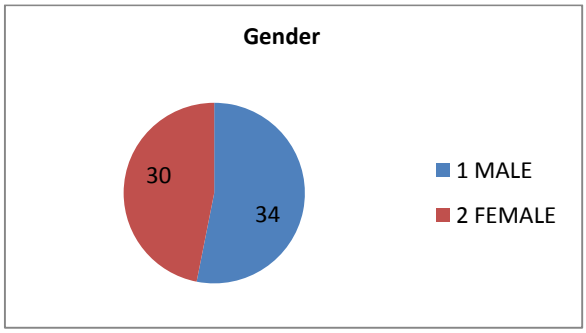
process. Dispensing errors are believed to be the most prevalent type of medical error and are a significant cause of preventable adverse events (Dean et al .,2002 ; David et al ., 2001 ; Parwitasari et al .,2010 ; Bobb et al 2004).The most frequent type of error was medication dispensed with an incorrect dose.[6] In American, British, and Canadian hospitals where the unitary dose (UD) system is used, the rate of medication errors has been reduced from 1error/patient/day to 2 - 3 errors/patient/week. It has also been observed that the rates of drug dispensing errors in work environments with high levels of interruption, distraction, noise, and overload are higher (3.23%) compared with the environments with lower levels of these aspects (1.23%).[7-9] Errors in the drug dispensing system included the following: delay in the dispensing time; medication with similar labeling and packaging; many drugs to be given at the same time, with the consequent delay in the administration; and drugs sent with the wrong identification.[10] Causes of dispensing errors can be traced by root-cause analysis or by eliciting explanations by practicing pharmacists by means of a survey. Root-cause analysis comes closer to reality, because a survey measures only the perceptions and opinions of pharmacists. An example of the former type was a study in a UK hospital in which the researchers used semi structured interviews of pharmacy staff about self-reported dispensing errors.[11] Over the years, pharmacies have introduced several methods and strategies to reduce dispensing errors, depending on the different working phases of the pharmacies in the medication process and the development of information technologies.[12]

2. METHODOLOGY

This study had a cross sectional design and was conducted among Outpatients attendees at the pharmacy department of secondary care hospital at Guntur in AP. The patients were interviewed from October 2015 to January 2016. Exactly 64 patients were randomly chosen in this study. The patients were interviewed by using a some oral questions. Information collected included socio demographic item (age, sex),diagnosis of the disease, Department .The concept of dispensation error adopted was the discrepancy between the written instruction found on the prescription order form and the accomplishment of this instruction by the pharmacy when the drug was dispensed to the wards or hospital services. Data collection was performed during the day in the place where the medication was dispensed to General medicine, cardiology, pediatrics, ophthalmology, gynecology, ENT, Surgery. The following drugs are included : Tablets , capsules , syrups, Eye drops, and Ear drops. The excluded drugs are suppositories, injections , ointments and narcotics. Necessary

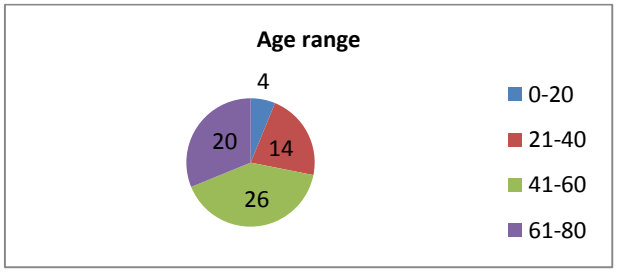
3. RESULTS

1.Gender:



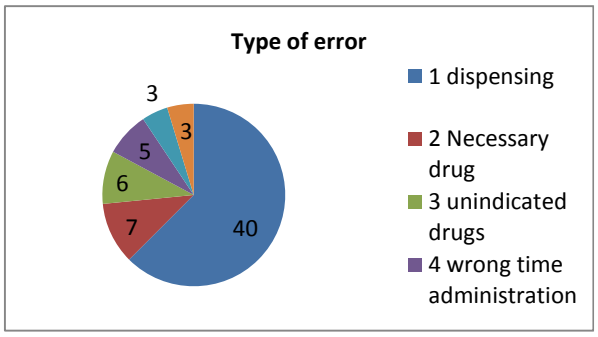
A total number of 64 prescription order forms were analyzed totally320 drugs were dispensed. Out of 64 patients 34(54%) patients were male and 30(46%)patients were female. From this study we can say that male patients are more prone to diseases.

2. Age range:



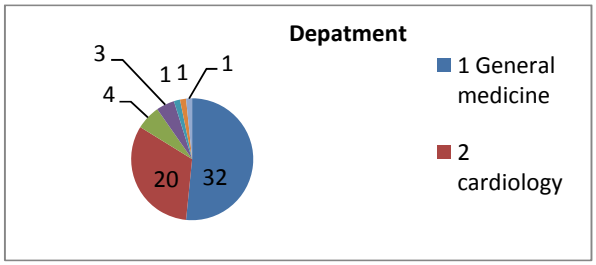
Based upon the age distribution most of the patients were (41%) comes in the range of 41-60 years and less patients were (6%) found in the range of 0-20years.

3. Type of errors:



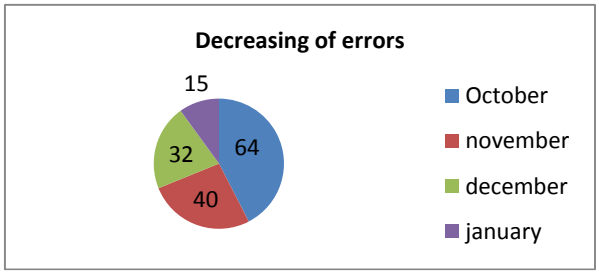
Most often observed error is dispensing error(63%) and less observed errors are wrong frequency, irrational use of drugs(5%). Some of the patients are having symptoms like constipation, headache, and cough but for these symptoms, drugs are not prescribed. Apart from this some drugs are given without any indication.

4. Department:



A totally 7 departments were included in this study they are General medicine, cardiology, pediatrics, ophthalmology, gynecology, ENT, Surgery. In that General medicine having more errors , then followed by cardiology department. Apart from these less errors were found inpediatrics, ophthalmology, gynecology, ENT, Surgery. From this we can assure most of the errors are found in GM only because of the flow of the patients were very high.

5. Decreasing of errors:



Based upon the above results in the month of October errors are more that is 64, it will be reduced to 40 errors in November month, 32 errors are reported in December month and gradually decreased to 15 in the month of January.

4. DISCUSSION

It was found that clinical pharmacist play an important role in the detection of medication errors evolving from pharmacist site and nursing department. Although prescribing errors can be found in all settings, it can be reduced upto 20% with the medication review system.

This study supports the use of clinical pharmacist in the outpatient setting to improve the quality ,safetyand efficacy of care . A fundamental advantage to the pharmacist interventions discussed is that most can be implemented through reallocation of existing resources to use on the clinical pharmacist services. Published studies evaluating the cost of incorporating clinical pharmacists have generally demonstrated a net hospital cost benefit in terms of cost avoidance and use[12,13]. In 4 trails , clinical pharmacist recommendations led to reductions in the number of unnecessary medications and number of daily doses , improved medication appropriateness and medications lacking an indication or known adverse drug events ADRs , and fewer drug interactions [14]. In the collection of data all the hospital pharmacists, other clinical pharmacist and colleagues are also play a vital role.

This coordination with the works of Edmonndents[15], and Lubingaet al[16] .that emphasis the importance of lead reship in encouraging team learning to maximize patient safety. The lack of checking the drugs dispensed and lack of a routine of returning unused medications back to the to the pharmacy. The most frequent type of dispensing error was possibly associated with the interruptions and distractions and exacerbated by the lack of communication. Males are more prone to diseases and frequently attended to the hospitals. Most of the patients are present in the age range of 41-60 years. Which represents that the age is the one of the factor for getting diseases. Errors are more in the starting month (October) it will be gradually decreasing in January month because of presence and communication of clinical pharmacist with medical staff. these errors are mainly shows impact on the economic burden of the patient.

5. CONCLUSION

Over the year's pharmacist have implanted various methods to reduce the rates of dispensing errors. We found only few studies that measured the impact such methods .frequent communication with patient also very important which helps in the prevention of administration errors. ore research is also required on dispensing errors in outpatient healthcare system . Dose errors are occurring in number well above reports regulatory authorities or professional indemnity insurance companies and seem to be accepted as part of practice. High prescription volumes, pharmacist fatigues and over work appear to be important factors. The profession needs to be proactive and standards must be set appropriately high (i.e. zero error tolerance) clinical pharmacist must communicate with physicians, nursing staff and other hospital pharmacist thereby we can minimize the errors.

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