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Improving Medication Safety in an Independent Community Pharmacy

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Improving Medication Safety in an Independent Community Pharmacy

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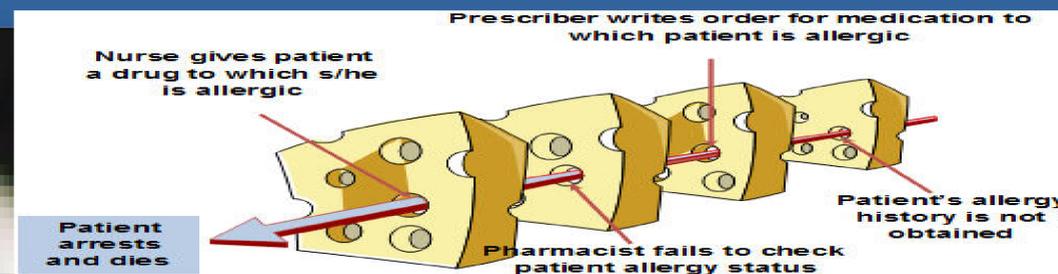
STATEMENT OF THE PROBLEM

Background

Medication errors are often times thought of as a patient receiving a medication that belongs to another patient, but many to do not understand the other areas that are constituted as "medication errors" are much broader. These errors include, but are not limited to, patient receiving the incorrect medication, improper dosing (too large or too small), wrong drug dispensed, incorrect methods of administration, mislabeling, and etc. Medication errors are such an important issue in the United State because it is the most medicated society in history.

Significance of the Problem

Every week, eighty percent of the adult population uses prescription medicines, OTC drugs, or dietary supplements. Just in community pharmacies alone, using an industry agreed upon dispensing error rate of 1.7%, translates into more than 30 million dispensing mistakes a year (McCarthy). The increase in dispensing mistakes also leads to an increase in the number of injuries experienced by patients. Based on a study by Wolters Kluwer Pharma Solutions, U.S. outpatient pharmacies filled 3.9 billion prescriptions and of those, about 325,000 are wrong-drug errors serious enough to cause potential harm to patients, including long-lasting injury or death. Of that amount, it is estimated that 1 in a thousand results in death, or approximately 1 death per day due to a medication error (McCarthy, 2011). These errors, estimated at least 1.5 million injuries due to medication errors, are costing the healthcare system billions of dollars according to the 2006 IOM report, Preventing Medication Errors (McCarthy, 2011). Retail pharmacy is an area of the healthcare field that continues to grow as more research is completed and new drugs are discovered to treat ailments that have never had a cure in years prior. "Outpatient prescription medications dispensed in the USA increased from 2.1 billion in 1994 to 3.6 billion in 2005." (Kaiser, 2006) With the substantial amount of growth that is occurring, the added stresses of fast, convenient, and efficient filling of prescriptions is a constant area of worry, whether it be in chain or independent community pharmacies. In an article from the *USA Today* in February of 2008, it was stated that there were "6,147 incidents for the wrong drug, wrong dosage or wrong instructions over two years." (McCoy and Brady, 2008) This also resulted in 223 drug error lawsuits. It is found that the average pharmacist who fills at least 160 prescriptions per day and a pharmacy that fills 250 prescriptions per day makes approximately four errors daily. (McCoy and Brady, 2008)

It is essential to combat these many potential problems in the area of retail pharmacy. These issues cannot be fixed until further research is done and more retail pharmacies are aware of the problems that occur within their individual pharmacy. This research must be done in order to present the best care possible to those who entrust the lives of themselves, their children, and their family.

OBJECTIVES

To examine the factors that significantly contribute to medication errors within an independent community pharmacy, and to evaluate the extent to which a specific process enhancement may increase the safety profile of an independent community pharmacy.

HYPOTHESES

Upon the identification of potential risk area by the ISMP Medication Safety Self-Assessment tool, our collaborative research team will implement a specific process enhancement, which will be used to significantly improve the safety profile of an independent community pharmacy.

Alternative Hypothesis: An independent community pharmacy does have potential risk areas that significantly contribute to medication errors.

Null Hypothesis: An independent community pharmacy does not have any potential risk areas that significantly contribute to medication errors.

LIMITATIONS

[1] It is not fully known how to measure the implementation of changes within the community pharmacy setting will affect the outcome of medication errors, as this study does not have quantitative data to analyze and is strictly qualitative.
[2] It will be difficult to draw conclusions on the effectiveness of the ISMP tool utilization in comparison to other pharmacies, as no previous studies have been conducted.

ACKNOWLEDGEMENTS

PROPOSED METHODS

Study Design

The methodological portion of the study is to evaluate medication safety within an independent pharmacy. The single subject design will follow the A-B-A pattern, which is accomplished by the completion of the ISMP Self-Assessment tool interviews. Through the interview process and observation, baseline data will be gathered on potential causes of medication errors. Once a process enhancement is chosen to implemented, the intervention period will begin for a period of time yet to be determined. After completion of the intervention period, additional baseline data will be completed to determine the effectiveness of the process enhancement.

Sample

The participant in this study is an independent community pharmacy located in Southwestern Ohio. The city in which it is located has a population of about 60,000, primarily comprised of Caucasian and African American individuals (75.25% Caucasian, 18.12% African American). Median household income is $34,045 and 25.8% of residents are. below the poverty level. Nearly 81% of residents have completed high school, and 13.7% have completed a bachelor's degree or higher.
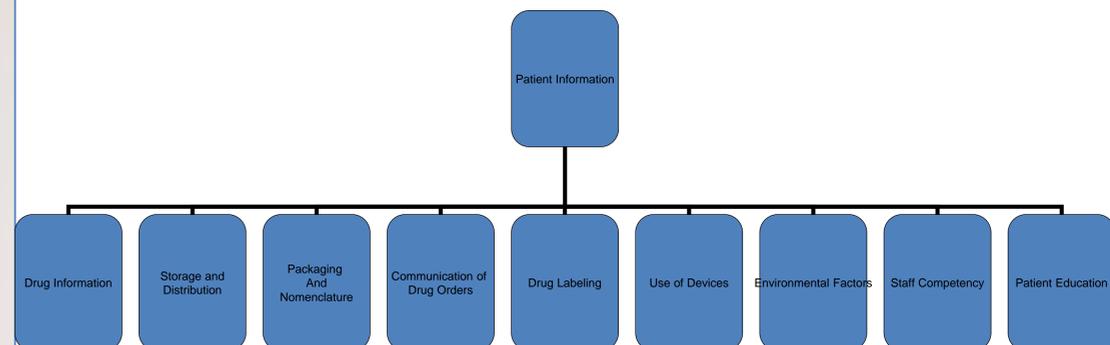
The pharmacy used in this study processes an average of about 600 prescriptions per day and employs a staff of six pharmacists and ten technicians. Services offered include compounding, vaccinations, home delivery and Doc-U-Dose. The pharmacy also serves a large mental health population, providing pharmacy needs to several assisted living communities and mental health institutions.

Data Collection

A preliminary meeting with the participants will be conducted with the staff of an independently owned pharmacy. Two pharmacists and two pharmacy technicians will be given an information packet that will focus on the purpose of the project, information on the ISMP tool being used, the importance of pharmacy error improvement, and defining terms that may not be well known to the participants. The researchers will then meet individually with each member of the participating staff in order to conduct the ISMP survey. It is important to conduct the interviews separately, as a cluster meeting could give rise to internal validity errors. Once each member has completed the survey, the data collected will be compiled by the research team and discrepancies found will be addressed in a group meeting with the pharmacy staff participants. Survey results will be sent to ISMP for statistical analysis. During the second part of the project, a meeting will be conducted with the pharmacy staff to verify what changes can be implemented to improve medication errors, based on the assessment tool findings. Potential process enhancements of identified areas will be evaluated for feasibility, cost, and perceived beneficial outcome. Once items are selected for change, a baseline measurement of the selected process will be conducted before changes occur, as well as afterward, to measure any outcomes of the enhancement process.

Measurement

The research team will be utilizing the ISMP Self-Assessment tool. The ISMP Medication Safety Self Assessment Tool analyzes: Demographics: number of individuals, type of pharmacy, number of prescriptions per week, and ethnic group percentages served. The ISMP questions are broken down into 10 categories that are the basis for most medication errors:

Patient Information

Drug Information | Storage and Distribution | Packaging And Nomenclature | Communication of Drug Orders | Drug Labeling | Use of Devices | Environmental Factors | Staff Competency | Patient Education

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