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Medication Errors in Relation to Education and Medication Errors in Relation to Years of Nursing Experience

Singh SD[1]*, Vahora SI[1], Chokshi KS[1], Solanki AJ[1], Chaudhary DR[1], Patel SD[1]
[1]*Indukaka Ipcowala College of Pharmacy, New V.V.Nagar, Gujarat – 388121.*
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ABSTRACT

Medication error is defined as any preventable event that might cause or lead to an inappropriate use or harming of the patient. The purpose of this study was to determine the relationship between the level of education and medication errors; years of work experience and medication errors. With a better understanding of these relationships, nursing professionals can learn what characteristics tend to make a nurse prone to medication errors and can develop methods and procedures to reduce incidence. The survey was conducted in 6 hospitals in Anand city. Approval had been obtained from the hospitals where the study was to be conducted. The survey form was divided into 5 different sections. Each section comprises of minimum 3 questions which relates to their basic information and their perceptions towards medication error. The results of the study suggested that there is a direct relationship between education/experiences and medication errors. The study showed that medication error occurs due to lack of qualified nursing staff. The results showed that medication error were reported due to increase workload on nurses because of lack of number of nurses in hospitals.

KEYWORDS

Medication error, Questionnaire, Respondents, Survey.

INTRODUCTION

Medication errors are a significant issue affecting patient safety and costs in hospitals often posing dangerous consequences for patients. It is important to understand that an analysis of medication errors can help healthcare professionals and managers identify why medication errors occur and provide insight into how to make improvements to prevent or reduce them. There are several types of medication errors[2,3] such as wrong dosage, wrong patient, wrong route, wrong time, or wrong medication. The causes are also varied such as inexperienced or insufficient staff, or perhaps procedure or protocol not being followed.

***Address for Correspondence:**
Shweta D. Singh
Department of Pharmacy,
Indukaka Ipcowala College of Pharmacy,
New V.V.Nagar, Gujarat
E-Mail Id: shwetasingh120990@yahoo.com

This study explored the relationship between the number of medication errors and level of education and the relationship between the number of medication errors and years of nursing experience.

In researching the relationship between these possible contributing factors and medication errors, the safety of patients could be greatly enhanced and costs of healthcare can be reduced. A proper understanding of the contributing factors that increase medication errors is the first step toward preventing them. There are many factors, such as training deficiencies, undue time pressure, and nursing shortages that may have contribute to medication errors. The amount of nursing education and the years of nursing experience[4] are two factors that may have a relationship to medication errors. Due to the fact that nursing staff is a large cost to hospitals, these organizations are constantly trying to manage expenses.

Nursing as a profession has a long history of regarding patient safety as a primary precept of the profession. Nursing schools have long taught that there are "5 Rights"[1] to safe medication delivery to patients. These include the following: right drug; right patient; right dose; right route; and the right time. The 5 rights are goals, not procedures. Further, there is lack of evidence-based best practices on this teaching.

The framework for this study is the belief that relationship that less education and less experience lead to increased medication errors. Based upon this, it is important to evaluate nurses' medication errors including why they make them, how they are made, and what preventive measures can be taken to decrease the risk of making additional mistakes. There is a limited amount of published research correlating nursing experience and/or education with the number of medication administration errors. Findings reveal that there are differences in the perceptions of nurses about the causes and reporting of medication errors. It is important to understand that an analysis of medication errors can help healthcare professionals and managers to identify why medication errors can occur and make improvements to prevent or reduce them.

MATERIALS AND METHODS

Experimental Procedure/Survey Method

The survey was conducted in six hospitals in Anand city. Approval had been obtained from the hospitals where the study was to be conducted. Two persons from the team conducted the survey in different hospitals. The survey was performed without affecting the reputation of hospital. The survey team members were placed on each floor of the hospital in the nurses' stations for providing instructions concerning participation in the study. The review of the survey was one's own (nurse) view. Participation was voluntary and surveys were completely anonymous.

Questionnaire

The questionnaire[5] was made up by the project team and was cross checked by the guide. The survey form was divided into 5 sections. Each section comprised of minimum 3 questions which relates to their basic information and their perceptions towards medication error. The survey consisted of questions that were multiple choices.

MS Excel

The opinion through the filled up questionnaire were calculated by the project team. The data so obtained was analyzed with the help of Microsoft excel and various results as well as conclusions were obtained. The graphical results were obtained through the Microsoft office excel. Different graphs were plotted from the data obtained to get a good pictorial representation. This study used a quantitative non-experimental correlation design to examine the relationship between medication errors and level of education in addition to the relationship between medication errors and years of nursing experience.

QUESTIONNAIRE

SURVEY ON MEDICATION ERROR

SECTION: 1

Your information

1. Name(optional)
2. Hospital name(optional)
3. Qualification
4. Work experience

SECTION: 2

Background Information

1. How long have you worked in this hospital?
   - o 1 year
   - o 1-5 year
   - o 6-10 year
   - o 10 year or more

2. How many hour/week do you work in hospital?

- <20 hr
- 20-39 hr
- 40-60 hr
- >60 hr

3. Which shift do you usually work?
   - Day (8 hr)
   - Day (12 hr)
   - Night (8 hr)
   - Night (12 hr)

SECTION: 3

General

1. Do you know about medication error?
   - Yes
   - No
2. Had it been done by you ever?
   - Yes
   - No
3. Your hospital have any facilities to overcome that error?
   - Yes
   - No
4. Are you aware of 5 basic rights?
   - Yes
   - No
5. Do you ever use drug with checking labels, packing, nomenclature,etc..?
   - Yes
   - No
6. Does your hospital have an environment where individual are able to report error without fear of punishment?
   - Yes
   - No

SECTION: 4

Frequency of Event Reported

1. When a mistake is made it is caught and corrected before affecting the patient.
   - Always
   - Most of the time
   - Sometime
   - Never
2. When a mistake is made but has no potential to harm the patient, how often is this reported.
   - Always
   - Most of the time
   - Sometime
   - Never
3. When a mistake is made that could harm the patient, but does not, how often is this reported.
   - Always
   - Most of the time
   - Sometime
   - Never

SECTION: 5

Personal perception

1. I would hesitate to report an error or patient safety concern because I am afraid of retaliation.
   - Agree
   - Disagree
2. What according to you is the cause of medication error?
   - Increase workload
   - Shift change
   - No proper information
   - Personal problem

RESULT

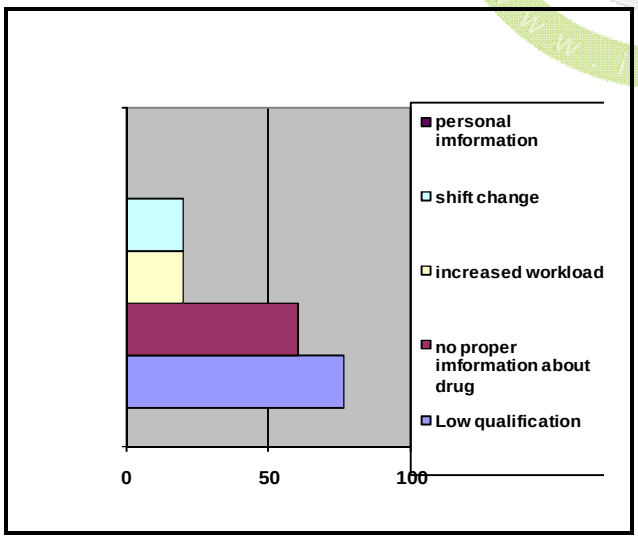
The results of the study suggested that there is a direct relationship between education/experiences and medication errors. The study showed that medication error occurs due to lack of qualified nursing staff. The results showed that medication error were reported due to increase workload on nurses because of lack of number of nurses in hospitals. The study also reveals that most of the nurses were unaware of **"5 BASIC RIGHTS"**. The study showed that nurses made most medication error after 5 years of experience. The shift that reported having the most medication errors was day shift when most medications are administered. The result showed that 76.67% of the medication error

occurs due to low qualified nurses and 60% of the error because of lack of proper information regarding the prescription. The result also showed that 20% of error occurs due to workload and 20% of error occurs due to shift change.

DISCUSSION

Due to the limited size of the sample population and the fact that the scope was limited to six hospitals, the results of this study cannot be generalized. However, the results do provide insight into the probable impact of education and experience on medication error rates. The study suggests there is a relationship between the number of medication errors and nurses with varying education levels. The study indicates that a most of the medication occur due to lack of qualification. This study indicates little difference between the number or medication errors and work experience. Since nurses make up such a large portion of the hospital staff population, it is important to understand this relationship and possible contributing factors leading to medication errors.

GRAPH



Graph 1: Graphical representation of the calculated data through the obtained responses.

Table 1: The obtained results from the calculation of the responses though the survey questionnaire

POSSIBLE REASONS FOR MEDICATION ERROR	% OF RESULT FOUND DURING SURVEY
Low qualification	76.67
No proper information about medicines	60
Increased workload	20
Shift change	20
Personal problem	-

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