

Nurses' perceptions of drug errors in Hospitals

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Abstract- Aims: to assess nurse' perception of drug errors in the hospitals, and to identify the association between demographical characteristics and Nurses' perception of the causes of medication errors, also to find out the association between demographical characteristics and Nurses' reporting medication errors.

Methodology: A descriptive study was conducted in three hospitals in Al-Najaf City; the data was collected from AL-Sadder Medical City, AL-Hakeem hospital, and Zahraa hospital from the period (May 8th - Sep. 29th 2012). The Sample of the study includes Fifty (50) nurses from these hospitals. A questionnaire was developed by the researcher to find out the nurses perception toward drug error, which consists of two parts: Part 1 consists demographical data, which includes age, gender, educational level, and years of experience, hospital, and place of work in the hospital. Part 2 consists a checklist which include (17) questions about the Nurses' perception of the causes of medication errors and nurses' reporting medication error. After gathering the data, data was analyzed through the use of descriptive data analysis (frequency and percentage) and the inferential data analysis.

Results: majority of the sample (74%) were at age group (20-29) years. And (39%) of nurses were graduated from nursing school. Regarding the years of experience (44%) of nurses were with (7 years and above). (90%) of the nurses did not have clear instruction about some drugs. And (94%) of the nurses agree a medication error should be reported using an incident report.

Conclusion: The nurses are most involved at the medication administration, although drug errors can occur when nurses did not have clear instruction about some drugs, or miscalculates the dose. Most of nurses were not reporting medication error due to some reasons that may lead them to lose their jobs

Recommendation: The knowledge gained from this study can contribute to educational programs that promote the recognition of medication errors. The knowledge also can assist with system redesigns to reduce or eliminate barriers to reporting medication errors. Encourage nurses to strengthened patient safety programs through timely, accurate, and comprehensive reporting.

Index Terms- Nurses, perceptions, drug errors, Hospitals

I. INTRODUCTION

With the growing reliance on medication therapy as the primary intervention for most of illnesses, patients receiving medication interventions are exposed to potential harm as well as benefits. Harm from medications can arise from unintended consequences as well as medication error (wrong medication, wrong time, wrong dose, etc.) ⁽¹⁾. Medication

mistakes unfortunately not rare events. Many mistakes go unreported, as staffs often do not realize an error has occurred ⁽²⁾. Errors in medication may occur in all parts of the process from diagnosis and prescription to administration and usage. Failure to administer or incorrect dosage were the most common events reported ⁽³⁾.

Around 10% to 18% of all reported hospital injuries have been attributed to medication errors ⁽⁴⁾. These errors injure 1.5 million Americans each year and cost \$3.5 billion in lost productivity, wages, and additional medical expenses ⁽⁵⁾. Since the report "To Err Is Human: building a safer Health system" was published in 2000 In America, 44,000 to 98,000 American individuals die every year in hospitals due to preventable medication error ⁽⁶⁾. In Norway, medication errors accounted for 27% of the adverse events reported to the Norwegian Board of Health in 2007, and for 13% of the fatal adverse events reported in the period 2001-2007 ⁽⁷⁾.

Physicians are responsible for the drug treatment, but registered nurses play an important role in carrying out the practical procedures in hospitals, and have the responsibility for recognizing errors and reporting them. Therefore, adequate knowledge and ability during dispensation and administration of drugs are vital for safe drug treatment. Nurses can receive their basic training in pharmacology, drug management, and drug dose calculation from university colleges and from the job training under senior nurses acting as tutors, they shows inadequate knowledge in pharmacology and drug management ^(5,8).

Objectives:

1. To assess nurse' perception of drug errors in the hospitals of Al Najaf Al Ashraf.
2. To find out the association between demographical characteristics and Nurses' perception of the causes of medication errors
3. To find out the association between demographical characteristics and Nurses' reporting medication errors

II. METHODOLOGY

The Sample of the study:

Fifty (50) nurses were randomly selected from three hospitals in Al-Najaf City; the data was collected from AL-Sadder Medical City, AL-Hakeem hospital, and Zahraa hospital.

Data Collection:

A descriptive study was conducted from the period (May 8th - Sep. 29th 2012). A questionnaire was developed by the researcher to find out the nurses perception toward drug error, which consists of two parts:

- **Part 1:** consists demographical data which includes age, gender, educational level, years of experience, hospital and place of work in the hospital
- **Part 2:** consists a check-list which include (17) questions about the Nurses' perception of the causes of medication errors and nurses' reporting medication error.

Data analysis:

After gathering the data, data were analyzed through the use of descriptive data analysis (frequency and percentage) and the inferential.

III. RESULT

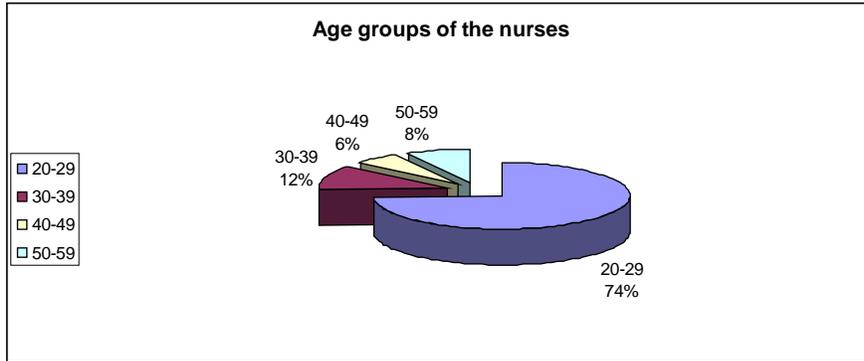


Figure (1) the age group of nurses in the study sample

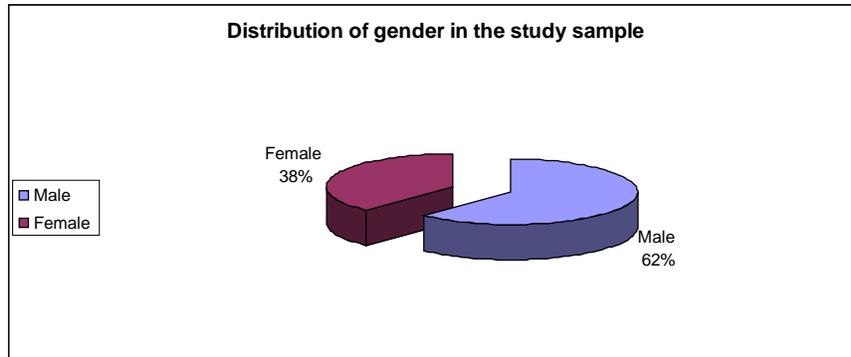


Figure (2) the gender of nurses in the study sample

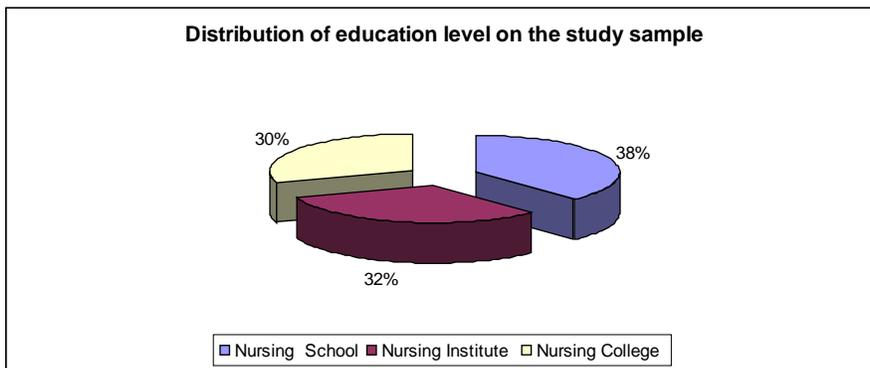


Figure (3) the educational level of the study sample

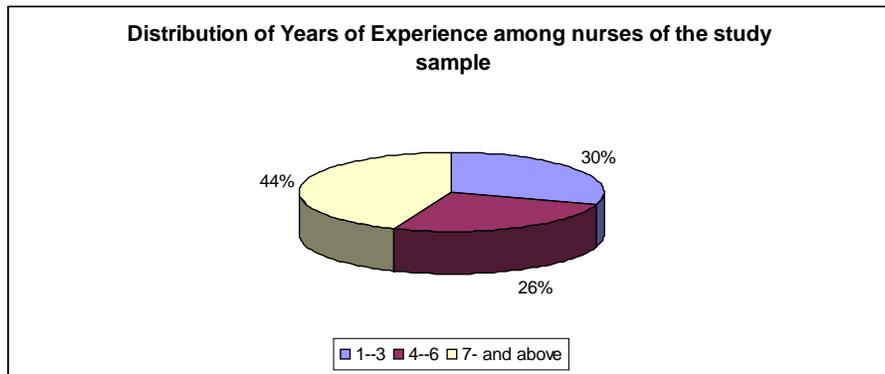


Figure (4) the years of experience of nurses in the study sample

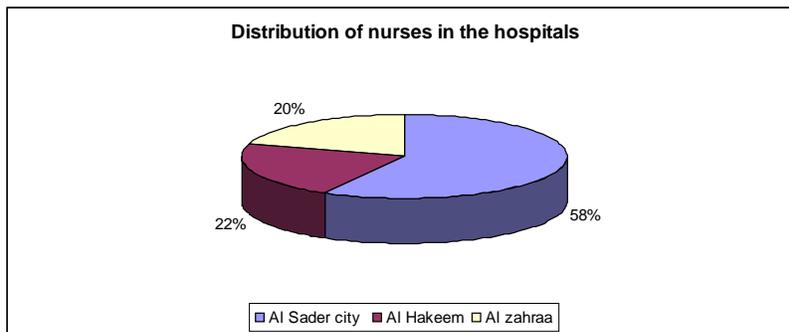


Figure (5) distribution of nurses in the hospital

These figures shows that about (74%) of the nurses were at age group (20-29) years, and (62%) of them were male, (38%) of the nurses in the study were graduated from school of nursing,

and most of the nurses were with more than 7 years of experience. In addition that, most of the nurses (58%) working in Al Sader Medical city hospital in Al Najaf Al Ashraf.

Table (1) Distribution of the responses of nurses' perception of the causes of medication errors

#	Nurses' perception of the causes of medication errors	Yes	%	No	%
	Drug's error occur when the physician's writing on the doctor order form is difficult to read	35	70	15	30
	Drug errors occur when nurses are distracted by other patients, coworker	33	66	17	34
	Drug errors occur when nurse are did not give the drug to patient on time	35	70	15	30
	Drug errors occur when nurses are tired and exhausted	35	70	15	30
	Drug errors occur when there is confusion between 2 drugs with similar names	34	68	16	32
	Drug errors occur when nurses did not have clear instruction about some drugs	45	90	5	10
	Drug errors occur when the physician prescribed the wrong dose	42	84	8	16
	Drug errors occur when the nurse fails to check the patient's name with the medication administration record	41	82	9	18
	Drug errors occur when the nurse miscalculates the dose	43	86	7	14
	Drug errors occur when the medication labels are damaged	36	72	14	28
	Drug errors occur when the nurse sets up or adjusts an infusion device incorrectly	44	88	6	12

Table (1) shows the distribution of number and percentage of nurse's response to the questions about nurses' perception of the causes of medication errors. (90%) of the nurses agree that drug error occur when nurses did not have clear instruction about

some drugs, (88%) of the nurses found that drug errors occur when the nurse sets up or adjusts an infusion device incorrectly. While (86%) answer was yes to the question about drug errors occur when the nurse miscalculates the dose.

Table (2) Distribution of nurses' reporting medication errors

#	Nurses' reporting medication errors	Yes	%	No	%
1	I am usually sure what constitutes a medication error	44	88	6	12
2	I am usually sure when a medication error should be reported using an incident report	47	94	3	6
3	Some medication errors are not reported because nurses are afraid of the reaction they will receive from the nurse manager	24	48	26	52
4	Some medication errors are not reported because nurses are afraid of the reaction they will receive from their peers	29	58	21	42
5	Have you ever failed to report a drug error because nurses did not think the error was serious to warrant reporting?	24	48	26	52
6	Have you ever failed to report a medication error because you were afraid you might be subject to disciplinary action or even lose your job?	22	44	28	56

Table (2) shows the distribution of number and percentage of nurse's response to questions about nurses' reporting medication errors. (94%) of the nurses agree that they usually sure when a medication error should be reported using an incident report. In addition, about 88% of the nurses shows that

they usually sure what constitutes a medication error. On other hand, only 58% of the nurses in the study agree that some medication errors are not reported because nurses are afraid of the reaction they will receive from their peers

Table (3) Association between nurses' responses toward their perception of the causes of medication errors and their demographical data

Nurses' perception of the causes of medication errors		Good	fair	Poor	P. Values
Age in years:	20-29	27	9	1	Sig.: 0.002 S
	30-39	5	1	0	
	40-49	1	0	2	
	50-59	3	1	0	
	Total	36	11	3	
Gender	Male	25	4	2	Sig.: 0.139 NS
	Female	11	7	1	
	Total	36	11	3	
Educational level	Nursing School	12	5	2	Sig.: 0.134 NS
	Nursing Institute	12	3	1	
	College of nursing	12	3	0	
	Total	36	11	3	
Years of experience	1-3	12	3	0	Sig.: 0.166 NS
	4-6	8	5	0	
	7- and above	16	3	3	
	Total	36	11	3	
Place of work	Al Sader city	25	4	0	Sig.: 0.004 S
	Al Hakeem	5	3	3	
	Al Zahraa	6	4	0	
	Total	36	11	3	

Table (3) reveals that significant relationship between the nurses' age and their level of perception of the cause of drug error, and there was significant relationship between place of

work and there levels of nurses' perception of the cause of drug error.

Table (4) relationship between demographical data and Nurses' reporting medication errors

Nurses' reporting medication errors		Good	Fair	Poor	P. Values
Age in years:	20-29	22	12	3	Sig.: 0.958

	30-39	4	2	0	NS
	40-49	2	1	0	
	50-59	2	2	0	
	Total	30	17	3	
Gender	Male	21	8	3	Sig: 0.293 NS
	Female	9	9	1	
	Total	30	17	3	
Educational level	Nursing Schools	7	11	1	Sig: 0.47 S
	Nursing Institute	10	4	2	
	Nursing College	13	2	0	
	Total	30	17	3	
Years of experience	1-3	10	4	1	Sig: 0.664 NS
	4-6	9	4	0	
	7- and above	11	9	2	
	Total	30	17	3	
Place of work	Al Sader city	21	6	2	Sig: 0.076 NS
	Al Hakeem	6	4	1	
	Al Zahraa	3	7	0	
	Total	30	17	3	

Table (4) reveals that significant relationship between the nurses' response levels about reporting medication errors and their educational level.

IV. DISCUSSION

Findings reveal that most of the nurses in the present study shows there were different reasons that causes medication errors like drug error occur when there is no clear instruction about some drugs, incorrect sets up or adjusts an infusion device, and miscalculation of the dose. This was supported by the study of Armitage (2008) which reveals that more than half of errors concern incorrect dosage, strength or frequency of medicine, incorrect drugs or failure to administer medication. Other errors relate to wrong quantity, known allergy, patients being given drugs intended for another patient, incorrect labeling, poor storage, and out-of-date stock ⁽²⁾

Mayo and Duncan (2004) in their study findings reveal that there are differences in the perceptions of nurses about the causes and reporting of medication errors. Causes include illegible physician handwriting and distracted, tired, and exhausted nurses. Only 45.6% of the 983 nurses believed that all drug errors are reported, and reasons for not reporting include fear of manager and peer reactions ⁽⁹⁾. While Gladstone (2008) demonstrated that it was likely that many drug errors were not reported for a variety of reasons ⁽¹⁰⁾. Hughes and Blegen (2007) stated that 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 labeling, packaging, and nomenclature; compounding; dispensing; distribution; administration; education; and monitoring ⁽¹⁾.

The study also found their correlation between nurses' age and their perception of the causes for drug error. In a study to Simonsen et.al (2011) who concluded that medication knowledge unsatisfactory among practicing nurses, with a significant risk for

medication errors. The study revealed a need to improve the nurses' basic knowledge, especially when referring to drug management ⁽⁸⁾.

Mark et al. (2009) in their study did not confirm the hypothesized relationships between nurse staffing and medication errors, because of underreporting, lack of variability in the data, and measures of key variables that were too infrequent ⁽¹¹⁾.

According to Hughes and Blegen (2007) emphasized the importance of severely reducing medication errors, improving communication with patients, continually monitoring for errors, providing clinicians with decision-support and information tools, and improving and standardizing medication labeling and drug-related information ⁽¹⁾.

V. CONCLUSION

- The nurses are involved at the medication administration, although drug errors can occur when nurses did not have clear instruction about some drugs, or miscalculates the dose or incorrect setup or adjust infusion device by the nurse.
- Most of nurses were not reporting medication error due to some reasons that may lead them to lose their jobs

VI. RECOMMENDATION

1. The knowledge gained from this study can contribute to educational programs that promote the recognition of medication errors
2. The knowledge also can assist with system redesigns to reduce or eliminate barriers to reporting medication errors
3. Encourage nurses to strengthened patient safety programs through timely, accurate, and comprehensive reporting

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