

Factors Contributing Toward Medication Errors Among Nursing Staff in Shafi Hospital in Hodan District Mogadisho,

Nasteho mire Hassan¹, Raho Mahdi barre², Salado Hassan Mohamed³, Abdifetah I. Omer⁴
nasteexanashaad@gmail.com¹, Ruuniita2017@gmail.com², salaadoxasanmxmd@gmail.com³,
Abdifatah@just.edu.so⁴

Graduate students, Faculty of Medicine & Health Sciences^{1,2,3}
Lecturer, Jamhuriya University of Science & Technology-JUST⁴
Mogadishu- Somalia

Abstract

Medication errors are common in hospitalized patients which are main concerns in healthcare systems worldwide. Medication errors is any mistake that occur during the medication use process, medication errors can begin in the course of prescribing, dispensing, transcribing, administering and monitoring medicines (European medicines agency, 2015). The aim of this study was to investigate factors contributing towards medication error among nursing staff in shafi hospital in Hodan district, Mogadishu, Somalia. The specific objectives were to identify factors contributed medication error among nurse staff in shafi hospital and to determine frequency of medication error among nurse staff in shafi hospital. The method used was descriptive cross sectional using both qualitative and quantitative. The data collecting in Shafi hospital during May, 2017 using structured questionnaire and observation checklist. A total of 20 respondents from Nurse Staff working different departments of shafi hospital were purposively selected, data collected were analyzed using SPSS version 20. The researchers observed that 85% of the medication errors among nurse staff were due to fatigue due to high workload while 70% of the respondents agreed that low ratio of nurse to patient were also main contributing factor of medication errors among nurse staff in shafi hospital. During last month more than 4 medication errors were estimated to happen among nurse staff. The study concludes that the most common medication errors among nurse staff in shafi hospital were due to wrong dose calculation which accounts nearly 40%. This study recommends recruiting more nursing staff, to increase nurse to patient ratio and subsequently increase working interval of the nurse

staff to decrease work load and availability of medication error recording and reporting system can reduce errors.

Keywords: *Medication error, nursing staff, Shafi Hospital*

1.0 BACKGROUND

Medication errors are common in hospitalized patients and are a high main concern in healthcare systems worldwide. Defined as any mistakes that occur during the medication-use process, medication errors can begin in the course of prescribing, dispensing, transcribing, administering and monitoring medicines [European Medicines Agency, 2015]. Often, these errors are preventable and result in increased patient morbidity and mortality as well as increased healthcare costs and pointless hospitalization (Krzyzaniak N *et.al*, 2016)

Other Definition of Medication errors were characterized as deviations in arrangement and organization of oral or intravenous medicines from the specialists' prescriptions , the hospital approaches and systems or the producers' directions Medication mistakes were ordered into the accompanying classes, like that utilized by different creators wrong medication, wrong measurements, wrong dose shape, crumbled tranquilize ,wrong planning procedure, oversight, unordered medication ,and wrong organization strategy. Dosages given before or later than the allowed time were not considered blunders. A mistake could be grouped in one classification as it were. (Nguyen *et.al*, 2015)

The factors contribute to medication administration Errors are characteristics of the nurse like specific unit, nurse to patient ratio, route and time of drugs administration and poor communication during change of shifts in hospitals also contribute medication error. (Feleke *et.al*, 2015)

One of the few large studies found that 2.5% to 18.4% of hospital admissions were joined with an adverse event and about 30% of those resulted in the death of the patient which was much higher than those in developed countries. Poor health system communications and insufficiently trained healthcare staff probably contributed to this (Nguyen *et al* 2015).

Therefore this study investigates the factors contributing toward medication errors among nurse staff in Shafi Hospital in hodan district of Mogadishu.

1.1 SPECIFIC OBJECTIVES

- 1) To determine the frequency medication error among nursing staff in shafi hospital.
- 2) To identify factors contributing medication error among nursing staff in shafi hospital

2.0 METHODS & MATERIALS

This study was descriptive cross sectional design using both quantitative and qualitative approach. This research conducted in shafi hospital located in Hodan district. Data were collected from different departments including emergence, post-operative and delivery ward. The research population was nurses that work in shafi hospital Hodan district. Muqdisho Somalia The study population included all the nursing staff working in three most important departments in shafi hospital. Total Sample size was 20 full time nursing staff working in shafi hospital and data was collected during May 2017. Data were collected using structured questionnaire designed by the researcher, key informant interview (KII) was also conducted for the hospital administrative. Data collected were compiled and analyzed using Statistical Package for social scientists (SPSS).

This study conducted with strict ethical consideration, proposal was approved by the ethical review committee of Jamhuriya University and permission letter was obtained from shafi hospital

3.0 Findings

3.1 Respondent by do you think fatigue due to high workload can result medication error

Fatigue due to high work load	Frequency	Percent%
Yes	17	85.0%
No	3	15.0%
Total	20	100.0%

Table 3.1 Respondent do you think fatigue due to high workload can result medication error

17 out of 20(85%) of the respondents said yes when asked do you think fatigue due to high workload can result medication error, while the rest of the respondents 3(15%) said no when asked with same question.

3.2 Respondent by do you think low ratio of nursing and patient can result medication Error in shafi hospital

Do you think low ratio of nursing and patient can result medication error	Frequency	Percent%
Yes	14	70.0%
No	6	30.0%
Total	20	100.0%

Table 3.2 respondent do you think low ratio of nursing and patient can result medication

14(70%) of the respondents said yes that low ratio of nursing and patient can result medication errors while the rest of the respondents said no.

3.3 Respondent by which type of medication error is more common in the hospital?

Which type of medication error is more common in the hospital	Frequency	Percent%
Administration Errors	6	30.0%
wrong dose calculation error	8	40.0%
Mistaken drugs	6	30.0%
Total	20	100.0%

Table 3.3 Respondent by which type of medication error is more common in the hospital

8 out 20 (40%) of the respondents said wrong dose calculation error was the most common error in shafi hospital, followed by 6 (30%) of both mistaken drugs and administration error among nurse staff in shafi hospital.

4.0 DISCUSSION

The main factor of the respondents 85% said yes when asked do you think fatigue due to high workload can result medication error. According to other literatures review also said the other two studies assessed fatigue along with other variables associated with medication errors. In one of these, a analysis of 57 nurses, respondents reported that the majority of medication errors were attributable to fatigue.70% the other study, a survey of 25 nurses in one hospital, found that one of the most frequently perceived causes of medication errors for nurses was being tired and exhausted. Other five studies assessed the association between fatigue and sleep loss with Medication errors. The first specifically investigated the effects of fatigue and sleep loss on errors using a national sample of nurses over a 2-week period. In this study, the rate of errors increased after working 12.5 hours.⁹⁹ A subpopulation of critical care nurses reported absentmindedness, heavy workload, distractions, and high patient acuteness as causes for their medication errors or near errors.⁸⁴ Fatigue and sleep loss was also a factor in a subpopulation of ICU nurses, who reported drugs (e.g., morphine, chemotherapeutic agents). Errors with high alert medications. (Hughes, et.al 2008).

The major respondents 14(70%) said yes, when asked do you think low ratio of nursing and patient load can result medication error . according to previous literatures said 67% of nurses working in the children's department reported that they have committed medication errors at least once. Medication errors may happen in each of the medication administration processes. The nurse-to-patient ratio is only one aspect of the relationship between nursing workload and patient safety. Overall nursing workload is likely linked to patient outcomes as well. A sophisticated 2011 study showed that increased patient turnover was also associated with increased mortality risk, even when overall nurse staffing was considered adequate. Determining adequate nurse staffing is a very complex process that changes on a shift-by-shift basis, and requires close coordination between management and nursing based on patient acuity and turnover, availability of support staff and skill mix, and many other factors. (Rogers, et.al 2004)

40% of the major respondents said wrong dose calculates error while the other respondents. According other literatures said one main reason medication errors in nurses is the wrong medication calculations, and in a study, the results were analytic that one-sixth of medication errors by nurses are due to wrong and faulty drug computations. It seems that calculation errors

are resulting from the weakness in the computational skills of nurses. Nurses on their ability to calculate volumes of drugs commonly administered to pediatric patients. In terms of experience, the proportion of nurses who made errors increased with the length of their professional experience, with 50% of nurses who had at least 11 years' experience making errors compared with only 25.8% of nurses with between 3 and 10 years of experience s.(Pournamdar, et.al 2016).

5.0 CONCLUSION

The majority of the respondents 11 (55%) were female, while 11 (55%) their ages were between 20 to 25 years, 13 (65%) of the respondents educational level were bachelor degree, while the majority 11(55%) their experience were between 2 to 3 years and 13 (65%) were single. The majority of the respondent 14(70%) said no with statement saying do you think medication at in appropriate time can cause medication error? 17(85%) of the respondents said yes when asked do you think fatigue due to high workload Can result medication error, The respondents said yes 14(70%). 12(60%) The respondents said no of when asked do you know co-patient can result medication error.

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