

**ATTITUDE AND PRACTICES OF HEALTH WORKERS TOWARDS MEDICATION ERROR REPORTING AT KAMPALA HOSPITAL, KAMPALA DISTRICT. A CROSS –SECTIONAL STUDY.**

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**Abstract**Page | 1 **Background**

In East African Countries Medication error reporting is a common challenge that has greatly embarked on patients' life resulting in to increased number of morbidity and mortality among patients. Thus, this study was carried out among health workers at Kampala Hospital-Kampala District with a purpose of finding out their attitude and practices towards medication error reporting.

**Method**

A descriptive cross- sectional research design was employed and 30 (thirty) respondents were selected using convenient sampling method. Data was collected using questionnaires then analyzed and presented in frequencies, percentages, tables and charts

**Results**

Majority of the respondents had positive attitude towards medication error reporting and 29 (97%) agreed that they would report these errors that are detected before reaching to the patients. To the practice, the majority of respondents 23 (77%) rarely report medication errors that are encountered, 6 (20%) report on a monthly basis which leaves a big impact on both health workers and patients' safety.

**Conclusion**

In Conclusion, the researcher noted that the respondents had positive attitude towards medication error reporting. However, they lack good practice of reporting system.

**Recommendation**

The study, thus, recommends that there is a need to introduce national medication error reporting system in health care practice and training. This would improve on the patient(s) safety.

*Keywords ; Health worker, Attitude, Practice, Medication error, Reporting*

*Submitted: 2024-04-12 Accepted: 2024-07-01*

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**Back ground to the study**

Medication error is defined as "Any preventable event that may cause or lead to inappropriate medication use or patient harm while medication is in control of the health care professional patient or consumer". (NCCMERP, 2015) Such events may be reflected to professional practice, health care products, procedures and systems including prescribing, order communication, product labeling, packaging, and nomenclature, dispensing, administration, monitoring and use. (Jordan et al.,2017).

Errors about medication are minimally reported in different parts of the world (WHO, 2016). In developed countries like United Kingdom (UK) studies have shown fewer medical errors reported compared to developing countries where all primary care patients are literally affected by prescribing and monitoring these errors (Torgersen, 2014). Medication errors have become a serious patient safety issue due to increasing rate of morbidity and mortality associated with such errors (Wittish, et al., 2014). The cost of medication errors on the National Health Service (NHS) of United Kingdom would reach up to £1.1bn annually

which is lower compared to developing countries (Torjesen, 2014).

In many African Countries, studies have shown medication error reporting systems (MERs) as the most common challenge in hospital settings but data for primary care is relatively scarce. This is relatively true of low- and middle-income countries despite the increase in use of medications by Health Care Professionals (WHO, 2016). However, findings from different medical audits conducted in Africa suggest that the extent of medication error occurrence in these settings is a bigger problem than suspected one (AB Mekonnen, 2018). In Sub-Saharan Africa the prevalence of medication error reporting (MER) is based on a usability evaluation criterion developed by Health care Information and Management System (HIMS) to identify the extent to which usability has enabled or hindered adaptation of Medication error reporting systems (Kavuma M, 2019). In East African Countries Medication error reporting is a common challenge that has greatly embarked on patients' life. This has resulted to increased number of morbidity and mortality among patients with a range of 9.4% to 80% of all medication administrations (R. Kigumba et al, 2015)

Efforts made in Medication error reporting in Uganda spear headed by National Pharmacovigilance through the National Drug Authority (NDA) has recently made attempts to record and report Medication errors (G Mauti et al., 2019). Incidence reporting system (IRS) have been known to minimize incidences in medication error, similarly it would also decrease medication error in health care system (Murray, 2015). Despite the state of under-reporting, there is little information on practicing, recording and reporting of medication errors in Uganda being a signatory to WHO Alliance for patient safety (G Mauti et al., 2019). Inadequate reporting of medication errors has compromised patient safety and health because health workers have failed to learn from these errors and adverse events that have occurred. Patients are continuing to suffer harm from medication errors in different hospitals. An assumption has been made by a researcher at Kampala hospital to determine the effectiveness of medication error reporting by health workers. Determining the practice of Health workers on medication / medical error reporting will result in taking appropriate managerial and individual measures to increase error reporting, decrease the occurrences of these errors and this would improve on the patient's safety and health. Therefore, the purpose of the study was to find out the attitude and practice of Health Workers towards Medication error reporting at Kampala Hospital.

## Methodology

### Study Design and Rationale

A descriptive cross-sectional study was carried out to determine the attitude and practice of health workers towards medication error reporting at Kampala Hospital. This design was chosen because data was collected at once with no need to follow up the respondents. The study took quantitative dimension.

### Study Setting and Rationale

The study was carried out at Kampala Hospital one of the most private health facilities in Uganda that receives patients mainly from Kampala and other parts of Uganda. The hospital is centrally located in lower kololo, plot 6C, Makindu close, off Windsor Crescent. The hospital offers out-patient services, diagnostic services, inpatient services, Operating Theatre, labour and maternity services and including of medical specialties affiliated in different fields. The area was chosen because it is close to the residence of the researcher and also it is where the research problem is found.

### Study Population

The study population comprised of nurses, midwives, pharmacists, and doctors who are working at Kampala Hospital.

### Sample Size Determination

A total of 30 respondents was used as study subjects. This number of respondents was chosen because it is thought to be large enough to ensure that the researcher obtain enough data to fulfill the study objectives and give valid research.

### Sampling Procedure

A simple random sampling method was used to select the respondents to participate in this Study. To obtain 30 respondents for the study, secret pieces of papers were prepared and numbered equally to the targeted groups in hospital. These papers were folded mixed-up and put in an open box. The participants were requested to pick one piece of paper at random and first 30 participants to pick papers with an even number automatically were included in this Study. This procedure was applied across all selected departments.

### Inclusion Criteria

All nurses, midwives, doctors and pharmacists working at Kampala Hospital stood a chance to be included in the study up on their individual consent.

### Definition of Variables

#### Independent variables

This comprised of attitude and practices of health workers working at Kampala Hospital.

#### Dependent Variables

Medication error reporting of health workers working at Kampala Hospital.

## Results

### Demographic and Social Characteristics of Health Workers

Results in table 1 showed that 17(57%) respondents had an experience of less than 4 years which implied that due to low level of experience in service, respondents would be less knowledgeable about medication error reporting. This was followed by 11(37%) who had practiced between 5-9

years while the least 2(7%) had practiced 10-19 years and none had practiced 20 years and above.

are detected before reaching the patients while the least 1 (3%) gave negative feedback. This implied that there was only one person with negative attitude towards medication error reporting.

**Attitude of Health Workers towards Medication Error Reporting**

Page | 3 Table 2 shows; Out of 30 (100%) respondents, 29 (97%) gave positive feedback on reporting medication errors that

**Table 1: Demographic Distribution of Health Workers by Age** n=30

Duration in service	Frequency(n=30)	Percentage (%)
<4 years	17	56.67
5-9 years	11	36.67
10-19 years	2	6.67
20 and above	0	0
<b>Total</b>	<b>30</b>	<b>100</b>

**Table 2: Response on Medication Error Reports That Are Detected Before Reaching the Patients** n=30

Variables	Frequency(n=30)	Percentage (%)
Yes	29	96.67
No	1	3.33
<b>Total</b>	<b>30</b>	<b>100</b>

**Figure 1: Responses on Whether Errors Causes No Harm to the Patients**

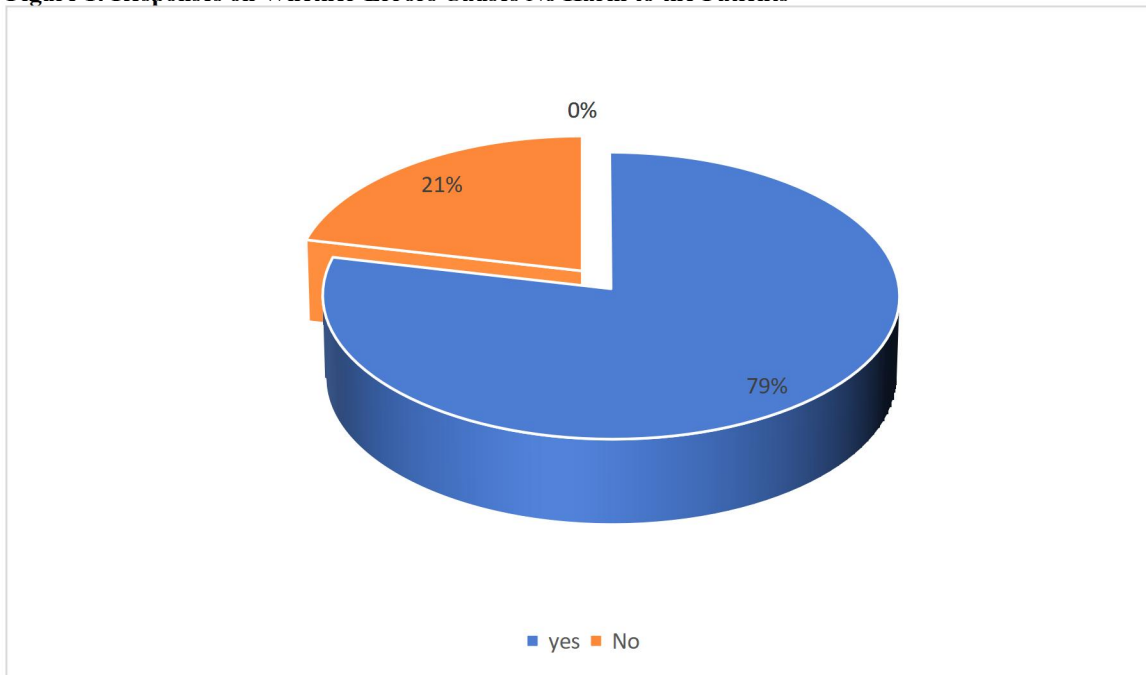


Figure 1 shows that the majority of the respondents 22 (79%) reported that most errors did not cause harm to the patients. This implied that most of the respondents were familiar in handling medication errors. The least 6 (21%) caused harm to the patients

According to figure 2, 25 (83%) responses shows that most errors cause harm to the patients that required additional monitoring. This is because these errors are inevitable in health care service as they cause the side effects to the patients. This implied that most of the respondents were

aware of drug side effects. Only 5(17%) gave negative feedback

Table 3 shows that of all the responses 29(100%), 15(52%) respondents shows that errors cause serious harm to the patients that would require hospitalization and 14(48%) gave negative feedback.

Figure 3 shows that out of 61(100%), responses on what was interventions to be done incase medication errors are education /training program was to be done by 21(34%), folc (31%) Policy/procedure was to be changed, 18 (30%) administered antidote and others shows that communication improved. This showed that most of the respondents had good

Table 4 shows that; Positive contributing factors to medication error reporting 7(30%) medication error awareness,5(22%) good working environment,4(17%) good training programs,3(13%) available reporting error systems,2,2(9%,9%) available patients' information and good guiding policies respectively. This showed that health

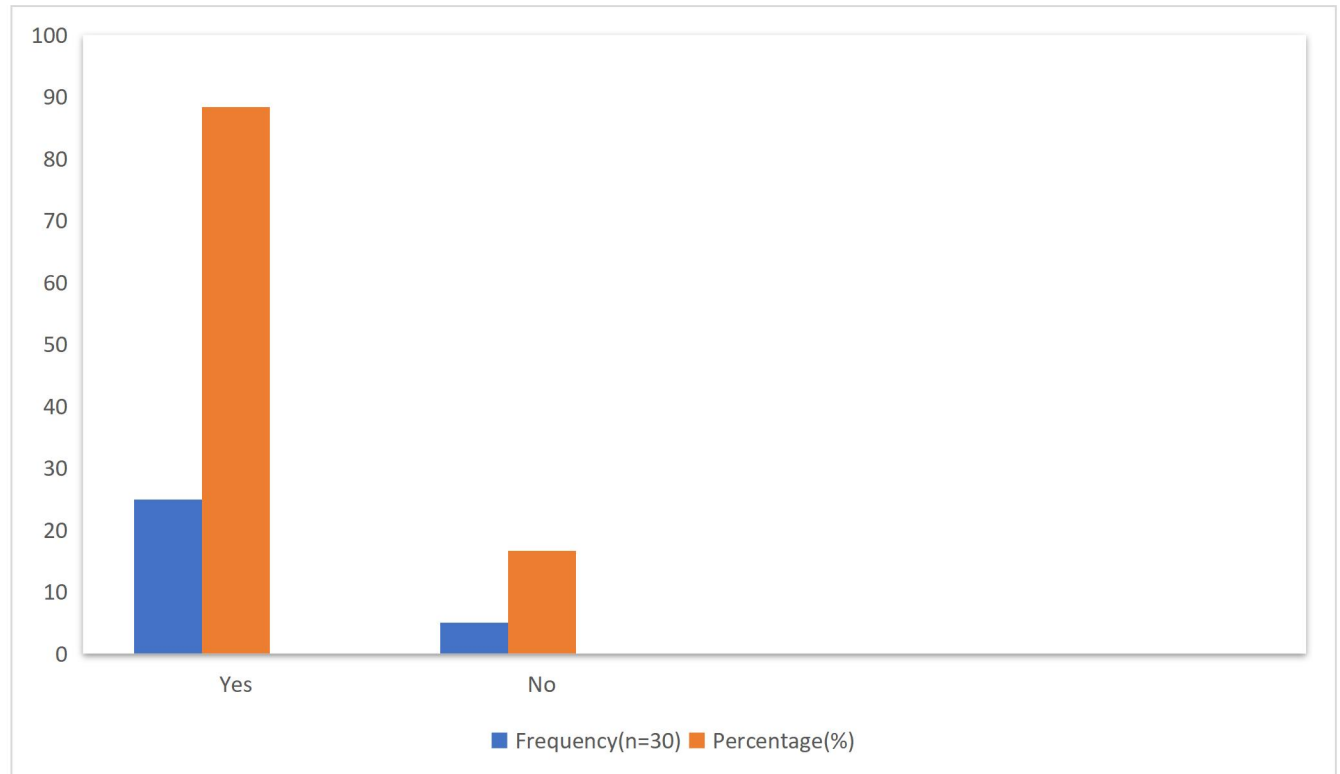
workers awareness plays a big role in reporting and reducing medication errors.

About medication error reporting out comes 8 (23%) reported patients' safety 6 (17%) reduces mortality and morbidity, 5(14%) improves on service delivery, saves patient(s) life respectively.4 (11%) reduces fear among health workers on job contract termination,3 (9%) reduces patient(s) costs 2 (6%) minimizes errors at work place, creates good image to the hospital respectively. This implied that proper handling of medication errors would results into patient's safety.

In figure 4; Majority of the respondents 18 (66.7%) shows that medication errors should be reported through electronic system and 9 (33.3%) shows that medication errors should be reported through medical error report forms.

This implied that it would minimize on the errors detected and improve on quality service delivery in all health care settings.

**Figure 2: Errors That Caused Harm Requiring Additional Monitoring or Stay Of the Patients**

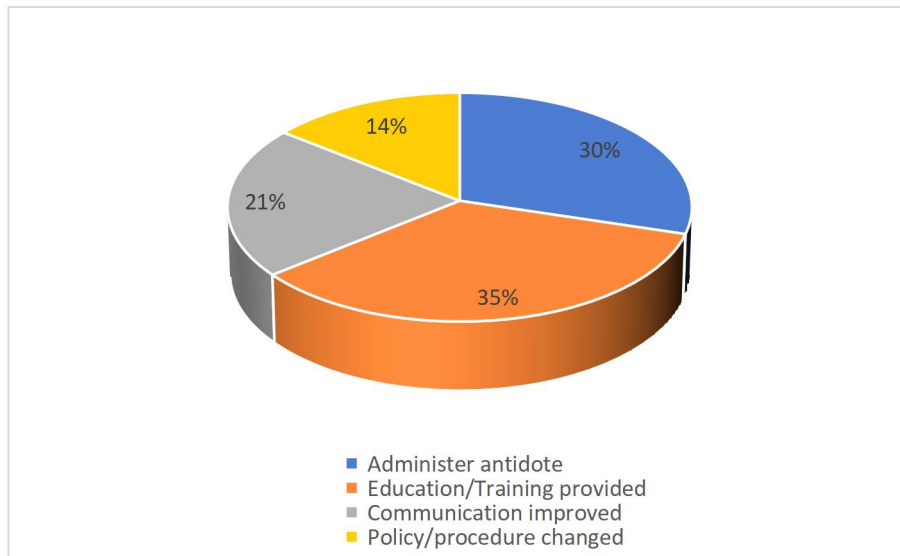


**Table 3: Responses on Whether Errors Cause Serious Harm to the Patients and Would Require Hospitalization**

Responses	Frequency(n=29)	Percentage (%)
Yes	15	51.72
No	14	48.28
<b>Total</b>	29	100

Page | 5 **Note:** The sample size reduced from 30 to 29 because not all the respondent’s completed questions.

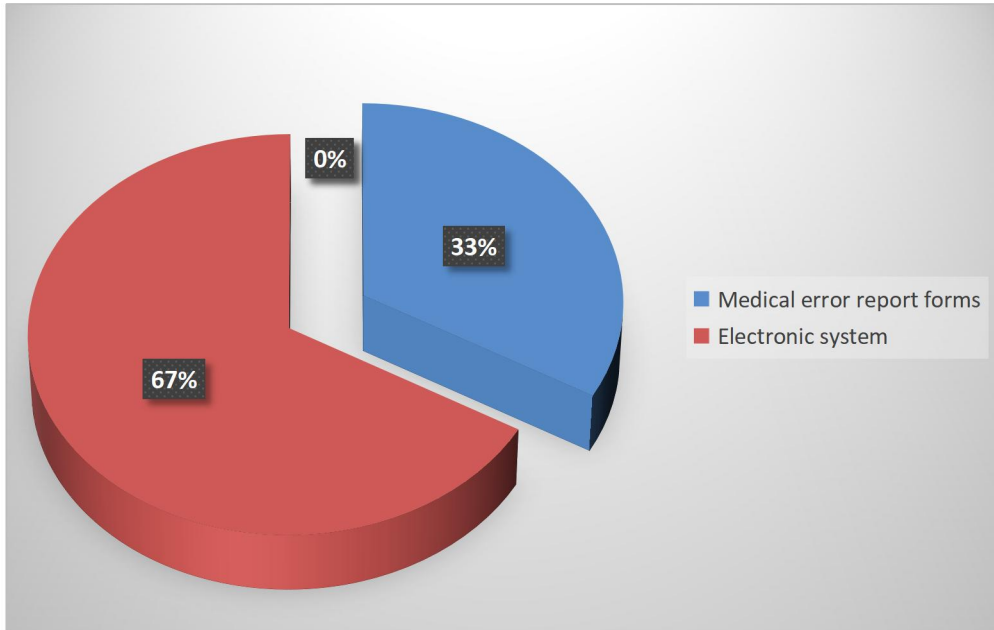
**Figure 3: Most Likely Interventions to Be Done Incase Medication Errors Are Detected**



**Table 4: Positive Contributing Factors and Outcomes of Medication Error Reporting To Health Workers and Patients**

Response	Frequency(n)	Percentage (%)
<b>Positive Contributing factors</b>	n=23	(%)
Available error reporting system	3	13.0
Available patients’ information	2	8.7
Good training programs	4	17.4
Good working environment	5	21.7
Awareness	7	30.4
Good guiding policies	2	8.7
<b>Outcomes of medication error reporting</b>	n=35	(%)
Patients’ safety	8	22.9
Improvement on sevice delivery	5	14.3
Minimizes errors at workplace	2	5.7
Reduces patients’ costs	3	8.6
Reduces mortality and morbidity rates	6	17.1
Reduces fears among health workers on job contract termination	4	11.4
Saves patients’ life	5	14.3
Good image to the hospital	2	5.7

**Note:** The sample size changed from 30 to 35 because some respondents gave more than one answer.  
**Figure 4: Responses on How Medication Errors Should be Reported at Work Place**

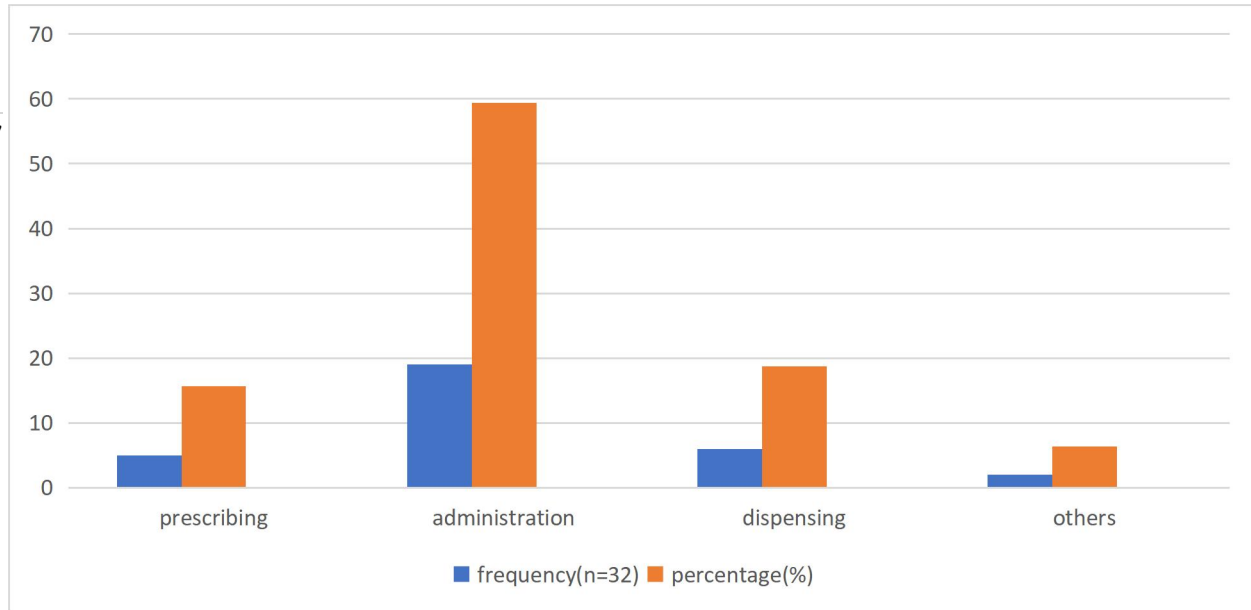


**Note:** The sample size reduced from 30 to 27 because not all respondents completed questions.

**Table 5: Responses on How Often Medication Errors Are Being Encountered In Health Care Practice n=30**

Responses	Frequency(n=30)	Percentage (%)
Daily	1	3.33
Weekly	0	0
Monthly	6	20
Rarely	23	76.67
<b>Total</b>	30	100

Figure 5: Most Reported Medication Errors in Health Care Practice



**Note:** The number of responses increased from 30 to 32 because some respondents answered more than one question.

Table 6: Whether Patients Got Informed About the Errors

n=30

Response	Frequency (n=30)	Percentages (%)
Yes	18	60
No	12	40
<b>Total</b>	<b>30</b>	<b>100</b>

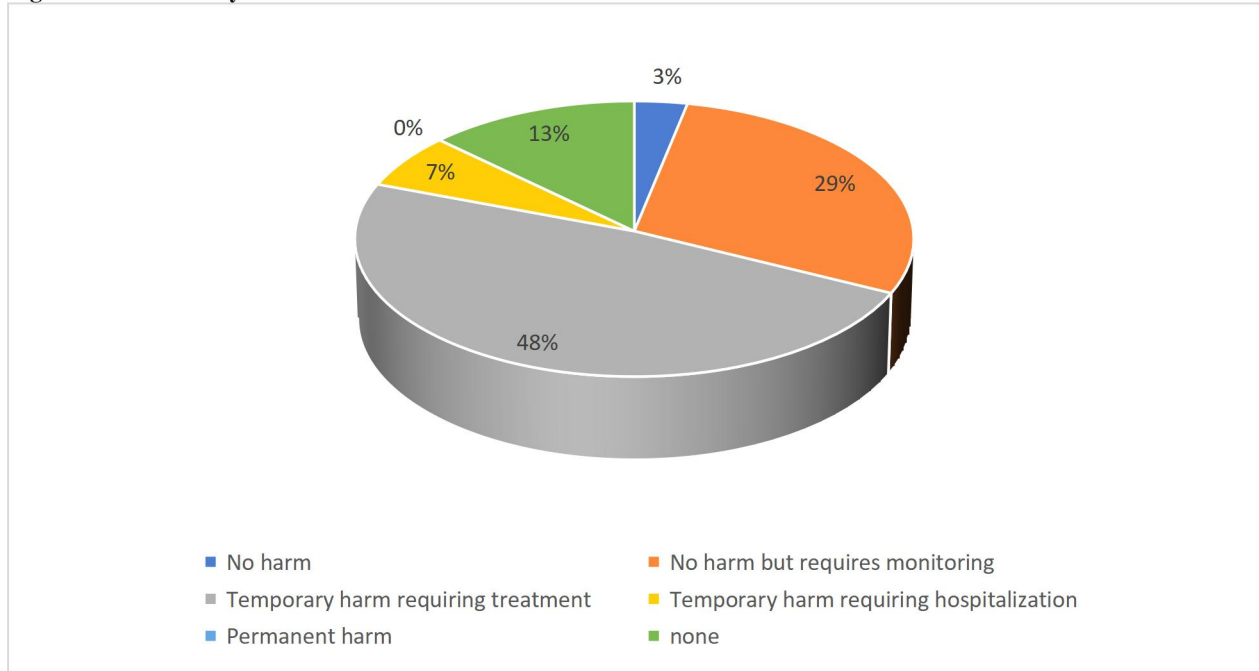
### Practices of Health Workers in regard to Medication Error Reporting

According to table 5, the majority of respondents 23(77%) rarely report medication errors. This implied that most of them were not much sensitized about the practice of reporting medication errors. 6(20%) report on a monthly basis, the least 1(3%) report on a daily basis while on a weekly basis, no one reported.

According to figure 5, the majority of the respondents 19 (59%) reported that medication errors occur by drug administration. This was because Nurses and Midwives takes big responsibility in drug administration. 6 (19%) occur by dispensing, 5 (16%) occurs through drug prescription and 2 (6%) occur by others.

According to table 6 about the errors that reached the patients, 18(60%) gave positive response. This implied that much as errors are inevitable in health care practice, most of the respondents give feed back to their patients. 12(40%), gave a negative response.

**Figure 6: Most Likely Outcomes of Medication Errors**



**Note:** Number of responses changed from 30 to 31 because some respondents answered more than one question.

**Table 7: Response on the Possible Causes of Medication Error Reporting**

Possible causes	Frequency(n=48)	Percentage (%)
Lack of knowledge and experience	15	24.2
Illegal prescription	4	6.5
Unavailable patients' information	11	17.7
Miscommunication	13	20.97
Use of abbreviations	3	4.8
Work over load	11	17.7
Poor attitude	5	8.1
<b>Total</b>	<b>62</b>	<b>100</b>

**Note:** The sample size increased from 30 to 62 because some respondents answered more than one question.

Figure 6 shows; that majority of the respondents about outcomes of medication errors, 15 (48%) reported that medication errors cause temporary harm that required treatment. This implied that administered medication has adverse side effects that could cause harm to the patients, 9 (29%) cause no harm but required monitoring, 4 (13%) were not aware, 2 (6%) said could cause temporary harm that required hospitalization, 1 (3%) said could cause no harm and none said could cause permanent harm.

Table 7 shows that a total of 15 (24%) respondents reported that the possible cause of medication error was lack of knowledge and experience. This was because most of the respondents had practiced for less than four years and were not familiar with most of the procedures done. 13(21%) with poor communication, 11(18%) with lack of

full patients' information, 11(18%) work over load, 5(8%) poor attitude 4(7%) illegal prescription, 3(5%) with the use of abbreviations. This implied that doctors take a big role in drug prescription

## Discussion

### Demographic and Social Characteristics of Health Workers

A total of 17 (57%) were in the age range of 25-29 years, which demonstrated that most respondents were mature enough and would thus be more knowledgeable about the importance of medication error reporting in healthcare practice.



The majority of the respondents 17 (57%) were females, and 13 (43%) were males. This was expected as most health workers involved in primary health care and in particular these cadres were females.

The majority of the participants 14 (50%) were in the field of nursing followed by 8 (27%) in the midwifery field, 4 (13%) doctors, and the least 3(10%) were in the field of pharmacy. This implies that nurses and midwives take a big responsibility for drug administration in health care practice.

Results showed that 17 (57%) respondents had an experience of less than 4 years which implied that due to a low level of experience in service, respondents would be less knowledgeable about medication error reporting. Therefore, more training would perhaps be needed. This would create more awareness among the new field health workers about medication error reporting. 11 (37%) had practiced between 5-9 years while the least 2 (7%) had practiced 10-19 years and none had practiced 20 years and above.

### **Attitude of Health Workers towards Medication Error Reporting- citations in the discussion section cannot be traced and are not included in the reference list**

Most respondents had a positive attitude towards medication error reporting and 29 (97%) agreed that they would report these errors detected before reaching the patients. Similarly, a study conducted by Marilyn, et al., (2014) revealed that health workers like nurses and doctors are more habitually to report medication errors with such a supporting environment. The majority of the respondents 22 (79%) reported that most errors did not cause harm to the patients. This implied that most of the respondents were familiar with handling medication errors. 6 (21%) said that it could cause harm to the patients.

According to the respondents, 25 (83%) responses said most errors could cause harm to the patients and require additional monitoring. This was because these errors are inevitable in health care service as they cause side effects to most of the patients. Only 5 (17%) gave negative feedback. The findings of this study were in agreement with what he revealed that there was a negative attitude of health workers towards health care practice.

The majority of respondents agreed that the possible causes of medication error reporting from health workers to patients were lack of knowledge and experience 15 (24%), 13 (21%) poor communication, work overload 11 (18%), poor attitude 5 (8%), inadequate patients information 11(18%), illegal prescription 4 (7%) and use of

abbreviations 3 (5%). This implied that doctors play a big role in drug prescription. This study's findings were in line with the findings where he revealed that poor communication and the use of technical language were the most common causes of medication error reporting.

Of all the responses 29 (100%), 15 (52%) respondents said errors could cause serious harm to the patients that would require hospitalization. 14 (48%) gave negative feedback. This was attributed to unavailable patient information, overwhelming patient numbers, and illegal prescriptions. Similarly, a study conducted by (Marilyn. et al., 2014) on attitudes of health workers toward medication errors was a result of an unsupportive environment. This was seen in all fields of work of practice.

The majority of the respondents 17 (53%) said the main reason that hinder health workers from reporting medication errors was fear of legal implications. This implied that most of them feared being sued by the patient and even their employers. Fear of being victimized 9 (28%) while the rest were 2(6%), including worried about, having no time/too busy. This study's findings were in agreement with the findings of (Peter. et al., 2015). This was simply because they fear to be punished by their supervisors/employers and fear of potential termination from their contract of job, avoid embarrassment or shame from fellow staff and clients as well as fear of litigation. (Katongole, 2015) revealed that health workers were unlikely to report medication errors for the reason that they thought it would make them lose their credibility as professionals.

According to responses on whether the patients got informed about medication errors, 18 (60%) gave a positive response while 12 (12%) gave a negative response. This was due to a favorable attitude towards error reporting. Of the majority of the respondents about the outcomes of medication errors, 15 (48%) reported that medication errors could cause temporary harm requiring immediate attention. 9 (29%) could cause no harm but require monitoring, 4 (13%) were not aware, 1 (3%) could cause no harm and none reported permanent harm. Similarly, a study findings by Prescott, et al., (2016) out of 100% of respondent pharmacists had a good attitude of 62% as compared to the professionals like nurses, and doctors with a rate of 35%, and 40% respectively.

The majority of the respondents 18 (66.7%) said that medication errors should be reported through electronic systems and 9 (33.3%) said that medication errors should be reported through medication error report forms. This implied that it would minimize the errors detected and improve quality service delivery in all healthcare settings. This would improve patients' safety, and health and avoid near misses that would a raise.

## Practice of Health Workers regarding Medication Error Reporting

According to responses, the majority of respondents 23 (77%) said they rarely report medication errors. This was because most of them were not much sensitized about the practice of reporting medication errors. 6 (20%) report every month, the least 1(3%) report daily while every week no one would report. This was attributed to unavailable patient information, overwhelming patient numbers, and illegal prescriptions. Similarly, a study conducted by Girders, et al., ( 2017) revealed good Managerial support and staff education regarding medication error reporting through a supportive environment among health workers could promote patient safety practices in the hospitals. Improved medication error reporting would only occur in an environment that encourages and supports reporting errors.

A total of 15 (31%) respondents said that the possible cause of medication error was lack of knowledge and experience followed by 13 (27%) with poor communication, 11 (23%) with lack of full patient information, 4 (8%) illegal prescription, 3 (6%) with the use of abbreviations and 2 (4%) others. The most common wrong practice of nurses was giving medication at an incorrect time and giving medication after the omission of a previous order. Another wrong practice was associated with the wrong patient, wrong route, and giving multiple drugs to the patients (Faith. et al., 2017). Barry & While, (2015) revealed that inexperienced nurses, new procedures, extremes of age, complex or urgent care, improper documentation, illegal handwriting and inadequate nurse-to-patient ratio, long shifts or overtime were unsafe practices in medication error management

Out of 61(100%), responses on what were most likely interventions to be done in case medication errors are detected, education /training program was to be done by 21 (34%), followed by 19 (31%) policy/procedure was to be changed, 18 (30%) was to be administered antidote and others show that communication was to be improved. Similarly, Adrian, et al., (2018), revealed that a reporting system helps to guide healthcare workers on how and where to report incident errors and also helps to investigate, analyze, and improve information about reported incidents. This would increase awareness among health workers.

According to responses, the majority of the respondents 19 (59%) said medication errors occur by drug administration, 6 (19%) occur by dispensing, 5 (16%) occur through drug prescription and 2 (6%) occur by others. Similarly, a study finding revealed by Morimoto, et al., (2016) showed medication errors in all care settings of the UK occurred in each stage of the medication treatment process with 16% prescribing, 18% dispensing, and 50% administration. This

study was in agreement with the findings of Debono, et al., (2017) study found that safe practice of medication error reporting management among health workers by use of electronic systems would significantly reduce medication errors.

## Conclusion

In Conclusion, the researcher noted that the respondents had a positive attitude towards medication error reporting. However, they lack good practice in the reporting system.

## Recommendations

### Recommendations to the Ministry Of Health

The Ministry of Health should endeavor to produce literature about medication error reporting and make it readily available to all healthcare institutions to guide health workers on knowledge, attitudes, and practices during the provision of healthcare services.

The Ministry of Health should improve upon its sensitization programs for health workers about the importance of medication error reporting.

### Recommendations for the Hospital Administration

The Kampala Hospital administration should endeavor to support and promote medication error training among to all stakeholders.

The administration should also endeavor to equip its health workers with medication error reporting tools.

### Recommendation for Health Workers

Health workers at Kampala Hospital need to ensure strict adherence to all recommended medication error reporting guidelines. This will ensure the provision of quality healthcare services to the patients and prevent lawsuits among health workers.

**Note:** The study, thus, recommends that there is a need to introduce a national medication error reporting system in health care practice and training. This would improve patient safety

### Implications to Nursing Practice

Health workers can play an important role in improving the quality of health care services provided as well as patients' satisfaction with the services provided. This can be ensured

through effective adherence to all the recommended medication error reporting guidelines.

### Acknowledgment

I thank the almighty God for his grace, love, and mercy upon me. Lord, it's your grace that has helped me to accomplish my studies.

To my parents, Mr. Ahimbisibwe George William and Kyomuhangi Florence, what could I have done without your support? I am very grateful for all the sacrifices you made for me to undertake this training. Thank you so much.

Special thanks go to my supervisor, Sr. Jane Frances Namukwaya for all the patience and guidance she gave me throughout the research project.

I also wish to thank the entire teaching staff for their tireless effort and guidance which contributed to my academic success.

Another thanks goes to the Principal Nursing Officer (P.N.O) Kampala Hospital through the Hospital administration for the support given to me during the training and data collection.

My heartfelt gratitude goes to my friends Atukunzire Benet and Kasumba Wilberforce for their financial support during my research project. Thank you.

My deepest appreciation goes back to my parents, Mr. Ahimbisibwe George William and Kyomuhangi Florence, and to my brothers and sisters Francis, Patrick, Kenneth, Evelyn, and Moreene for all the encouragement, prayers, and moral support given to me. May almighty bless you abundantly.

### List of Abbreviations and Acronyms

HIMS: Health care Information and Management System

IRS: Incident reporting system

MERs: Medication Error Reporting system

MOH: Ministry of Health

NCCMERP: National Coordinating Council for Medication Error Reporting and

Prevention

NDA: National Drug Authority

P.N.O: Principal Nursing Officer

WHO: World Health Organization

### Source of funding

The study had no funding

### Conflict of interest

No conflict of interest of declared

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