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Healthcare Providers' Perspective on Barriers to Patient Safety Incident Reporting in Lusaka District

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Abstract

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Background: Many studies from a number of different nations around the world have consistently demonstrated unacceptably high rates of medical injury and preventable deaths. However, research shows that patient safety from developing countries is still infrequent and that frontline healthcare practitioners have concerns about patient safety which are yet to be looked at. Therefore, this study aimed at exploring concerns related to safety of patients receiving clinical care.
Methods: In-depth, face to face interviews with 33 frontline healthcare practitioners and managers were conducted. The sample was collected at two largest hospitals in Lusaka, one offering mental health and the other one acute health services**.**
Results: The findings were broadly categorized into staff-related and institutional-related challenges. Most incidents committed by them were going unreported. Challenges in maintaining patient safety were also attributed to lack of guidelines, standardized reporting system, patient overcrowding, poor hospital building design and staff shortages. These make it challenging in maintaining patient safety measures.
Conclusion: In as much as patient safety is one of the priority areas in most healthcare systems of developing countries, incident reporting is not being done across the board. A number of factors are acting as barriers. There is a lot more that need to be done in order to improve the safety of patients in most developing countries and thus, with the current trend**,** patient safety incidents will continue harming patients receiving clinical care as long as these barriers exist.

Key words: *Patient Safety Incidents (PSI), World Health Organization (WHO), Healthcare providers*

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INTRODUCTION

Patient safety has been, and still is, a cause for concern in healthcare systems all over the world. Population-based studies from a number of nations around the world especially in developed countries where systems of reporting patient incidents have been well developed, have consistently demonstrated unacceptably high rates of medical injury and preventable deaths [1]. In May 2002, the World Health Assembly (WHA) passed a resolution, which urged countries to pay the greatest possible attention to patient safety and requested the Director-General of the World Health Organization (WHO) to carry out a series of actions to promote patient safety. The Resolution outlined the various responsibilities of WHO in providing technical support to Member States in developing reporting systems, reducing risk, formulating evidence-based policies, fostering a culture of safety and encouraging a research agenda on patient safety. The resolution ensured that the drive for safer health care became a worldwide endeavor [2]. An incident reporting system refers to the processes and technology involved in the hazards and errors capture, standardization, formatting, communication, feedback, analysis, learning, response and dissemination of lessons learnt from reported events [3]. The WHO further outlined key components of an incident reporting as one that should consist of types of systems, processes, classification and analysis. Types of systems refer to incident reporting system that seek to address two aims: public accountability and learning for improvement; processes, refer to what, who and what to report; classification refers to the taxonomy of events and risk matrix; and analysis involves identification, summaries, trends, correlations and causal analysis [3]. The ultimate measure of a successful incident reporting system is whether the information it yields is used appropriately to improve patient and organization safety [4].

Every year, approximately 900,000 incidents and near misses are reported around National Health Service (NHS) care of the United Kingdom (UK), of which about 2000 result in death [5]. Costs associated with preventable events accounted for an estimated $119 million of the $324 million cost worldwide, equating to 1.3% of the $9.2 billion Medicare inpatient expenditures for a month or about $1.8 billion annually [6]. Aside from the direct harm to the patient, patient safety incidents (PSIs) in hospitals have been linked with direct medical costs, as indicated by a number of studies outside Europe which have impacted on health budgets [7].

However, research shows that patient safety and quality of care information from the African region is still infrequent and limited in scope. In addition, there is also little information about how health care organizations in developing countries ensure the effectiveness of patient safety measures and care especially in the African region. A number of research studies in developing countries have suggested that frontline healthcare practitioners have concerns about patient safety and care, and yet most of these studies have not looked at what their views in terms of challenges are [8]. This knowledge gap is a serious limitation to understanding the extent of the problem at the global level and, more importantly, in developing African countries such as Zambia. It is from this background that the current study aimed at identifying health workers' views on barriers related to ensuring the safety of patients receiving clinical care in selected health institutions in Lusaka district.

METHODS AND MATERIALS

Study design

The research study was exploratory employing a qualitative case study design which is defined as a method of obtaining in-depth information on a person, group or phenomenon to provide descriptions of specific or rare cases as stated by Feagin and others [9]. Case studies are multi-perspectival analyses. This means that the researcher considers not just the voice and perspective of the actors, but also of the relevant groups of actors and the interaction between them.

Settings

The study was conducted in Lusaka district at two hospitals, that is, the University Teaching Hospital (UTH) and Chainama Hills Hospital (CHH).

UTH was selected as it is the nation's largest provider of a full range of primary, secondary and tertiary health care services on an in-patient and out-patient basis in the country. In addition, it is a teaching center for most colleges and universities such as the University of Zambia (UNZA) as well as a research center of excellence. CHH was established in 1962 and was thus included in this study as it is the oldest and largest hospital specialized in providing mental or psychiatric services in the country.

Participants and sample size

This study enrolled 33 healthcare practitioners; 19 at the University Teaching

Hospital (UTH) and 14 at Chainama Hills Hospital. They included frontline health workers who were medical doctors, clinical officers and nurses. In addition, the study also recruited hospital managers of different positions such as matrons, heads of clinical care and medical superintendents.

Sample selection criteria

The study participants were selected purposively using maximum variation sampling in which different categories of respondents are sampled for variation in perspectives, attributes, behaviors, experiences, incidents, qualities, situations, and so forth, ranging from those respondents that are viewed to be typical through to those that are more extreme in nature. Therefore, the sample comprised of frontline healthcare providers of different professions and responsibilities who were selected from each of the two hospitals; however, either a medical doctor or a clinical officer was selected. In situations where more than one eligible participant was available, the researcher would then purposively select a health care provider/manager who had served longest. Furthermore, snowball sampling was also used where participants would recommend to the researcher's other health care providers who were deemed also to have adequate knowledge pertaining to the subject of the study.

Data collection procedure

The data was collected using in-depth interviews (IDIs) and lasted between 35 and 60 minutes. The interview tool was a semi-structured interview guide which had open-ended questions. During interviews with participants, recordings using a tape recorder and transcripts of handwritten notes were conducted by the researcher and research assistant. Consent from respondents was sought prior to data collection.

Data Management and analysis

The data was exported into Nvivo (version 12) matrix to carry out the following procedures:

- Storing discussion transcripts
- Creating categories through computer-assisted coding
- Moving and linking data as higher order themes emerged
- Creating basic hierarchical models of codes

Thereafter, thematic analysis was used to analyze the data. This analysis method was used because it is simple to use and allows for flexibility in the researchers' choice of theoretical framework. In addition, through this flexibility, thematic analysis allows for rich, detailed and complex description of the data.

Using thematic analysis, the researchers studied important information and looked for themes, commonalities and patterns to try to make sense of the information given. Overall, the data analysis followed the following steps in accordance with Braun and Clarke's six simple steps [10];

1. Familiarization with the data through review, reading, listening etc.
2. Generating initial codes
3. Searching for themes
4. Reviewing themes
5. Defining and naming themes
6. Producing the report

were considered significant and are shown in bold.

RESULTS

The study recruited 33 healthcare practitioners from two largest hospitals offering specialized healthcare services, that is, mental health and acute health services. Table 2 below shows a summary of the key themes and codes that were identified.

Health worker-related concerns

Under-reporting

The participants highlighted a concern that most incidents or errors committed by them were going unreported or rarely reported and they felt that something should be done about it for the sake of the safety of patients. Most of them stated that they were more inclined to reporting incidents only in situations such as a patient fighting with a fellow patient, thieves breaking into a ward or patient falls.

"…There is always that feeling that you will be blamed and even being punished if you report an incident. However, we still have to report as this is still a responsibility as well for all the members of staff because there are some incidents which cannot be predicted and others are predictable to an extent there may be some negligence. But balancing the two has always been a challenge." (IDI 11)

Staff shortages and reporting

Most of the participants often reported and emphasized the impact on patient safety of staff shortages, which they linked to national shortages of trained personnel. Specifically, they highlighted that patient safety incident risks increased during busy or emergency periods, night shifts (when staffing levels were even lower), or when staff had to work additional or extra-long shifts (e.g., working the day shift following a night shift).

"We need if I am not mistaken, a ratio of 5 patients to 1 nurse, but unfortunately sometimes we just have maybe 3 or 2 nurses against maybe, at some point we are even having 75 to 100 patients. So it is not that safety issues are not being addressed, it is only because we are having issues with staffing as well as resources to implement some of the safety measures. This actually makes it challenging to ensure the safety of patients on our wards". (IDI 14)

Another health worker at the University Teaching Hospitals (UTH) also added to say that;

"….so it is very difficult for that one nurse to be able to be in all the places at the same time. So you will find that it is not their wish that they don't handle the patients according to the standards, but they are just overwhelmed because it is not just one thing they are supposed to do but there are so many tasks that

Organization-related challenges

Bed space inadequacy and overcrowding of patients

Inadequacy of bed space was said to be a very big concern that makes it challenging to maintain some safety measures of patients. The participants said that the wards were at times overcrowded with patients so much that they improvised beds by laying mattresses on the floor, a situation they thought was very unfortunate and compromised the recovery of patients.

"The wards are rapidly getting full each day and the bed space of the wards is not being increased. You will find that some patients will be put on the floor, of course on a mattress, because of inadequacy of beds as you have observed yourself. In addition, even the same patients who would be on beds will be too

Infrastructural inadequacies

In this study, almost all of the respondents stated how the material and physical context greatly affected their ability to provide and deliver safe care to patients. They described how the condition of some hospital departments was so poor in terms of inadequate lighting, broken windows, inappropriate building design, difficulty in controlling traffic of patients' visitors and damaged electrical sockets.

"we have patients absconding from the wards because the structure, the way the hospital is designed, I think the buildings are not that ideal. Firstly, the material that was used is ordinary material which is not ideal for a psychiatric hospital." (IDI 01)

"you see, our dormitories are not lockable for the patients and also there are some broken windows that

Inadequate policy guidelines

Frontline health workers including managers such as heads of clinical care (HCC) said that policy guidelines on patient safety were not available and added that they were an urgent need that the government needed to look into. Some of the health workers' unions and councils

such as the General Nursing Council (GNC) also called upon the relevant ministry to come up with stringent policy guidelines on patient safety.

"...the written guidelines as per display, we haven't displayed those guidelines but it is something as a nation we should be thinking about to write up so that the patients can also know. Currently, what we have are just the patients' rights." (IDI 11)

"Communication is the backbone of life, so we are told the channels of communication that whenever there is something happening on the ground it has to be channeled horizontally or vertically, whichever. So it depends, otherwise at nursing school we are told to be reporting and also here at work but

Lack of standardized reporting system

There were variations in the way incidents were reported across different departments in the two hospitals. Respondents highlighted the challenge they faced in maintaining patient safety which they attributed to a lack of standardized reporting system for all the health professions. They further stated that if patient safety was to be enhanced, a way (system) of reporting that did not blame or criticize the reporter was appropriate in the health care system.

"Well like I said it is not adequate, otherwise there is no real or good system which I think should be worked on. So the system is poor as it is not structured and so I am sure we are missing out a lot of things in our practice as health workers. We need policies that will help shape the reporting system in our health facilities." (IDI 06)

"We get away with so many things, and just maybe because the people are poor, they don't know their rights, or they don't understand the system, of which it is not right. In my view, we need to have a system in place for us as healthcare providers in my view without any doubts for all the health professions." (IDI 12)

DISCUSSION

Under-reporting and Staffing levels

The current study has revealed that most incidents (PSI) or errors committed by clinicians and other health workers go unreported or rarely reported. Nevertheless, the frequently reported incidents are that which are caused by other factors other than health workers themselves, such as patient falls, absconding, patient fights, among others. In addition, despite statistics or figures about the frequency of incidents occurring in health facilities not being complete and readily available, the number of incidents (errors) being committed by health workers could be high. This can be attributed to lack of a standardized reporting and learning system of incidents in the health care system and a blame culture among other factors. Hewitt et al., [11] in their study conducted in Belgium, found similar results in that, nurses and clinicians stated that they were more willing to report incidents such as patient falls and medication errors which they referred to as incidents that were easily realized. Hobgood adds that almost all health workers have committed medical errors but they generally don't tell patients or families and also their colleagues about these errors because disclosing errors to other people is never easy and hence, they are generally under-reported [12].

The Health Department of South Africa also stated that most Patient Safety Incident Management Systems (PSIMS) rely on detecting patient safety incidents through reporting by health professionals even though only a small number of PSIs are reported in this manner [13]. Health researchers have established that only 10 to 20 percent of errors are ever reported and, of those, 90 to 95 percent cause no harm to patients. Therefore, information on PSIs is scanty in most establishments [14]. The reasons for under-reporting vary, hence the need for seeking alternative options of detecting PSIs. A non-blaming culture philosophy should be developed within health establishments to enable a conducive environment to report PSIs.

It should be noted that hospitals that report large numbers of incidents are viewed as having an effective safety culture. However, it is also recognized that only a relatively small percentage of incidents that occur are actually reported, and crucially those incidents where harm did not occur ("near misses") but where learning could be significant to prevent future harm are not reported [15]. Error reporting helps

to understand why errors occur, to prioritize opportunities for error prevention and to generate long term improvement in patient safety [16].

The importance of adequate staffing in achieving quality patient care was a principal finding in the landmark report of the Institute of Medicine (IoM) Committee on the adequacy of staffing in hospitals and nursing homes [17]. It is a well-known fact that if patient safety is to be maintained and sustained, adequate staffing levels of health care providers become one of the factors to be considered as a priority in health care settings.

The current study indicated that there were considerable inadequate levels of staffing in the two settings where the study was conducted, which makes it challenging for patient safety measures to be maintained. A health care facility can have safety measures put in place aimed at ensuring the safety of patients receiving clinical care. However, if there are inadequate staffing levels as well as resources to implement these safety measures then that would make it challenging to ensure the safety of patients.

A study done by Bird [18] which was published in the Journal of the American Medical Association (JAMA) found that nurse under-staffing in neonatal intensive care units (NICU) leads to higher infection rates among very low-birth-weight babies.

With the current study, policy makers would at least be made aware that patients unknowingly are subjected to unintentional or intentional harm due to negligence by health care.

Poor Accountability

The current study also revealed the commonly observed phenomenon that the incidents which were immediate, and often witnessed (e.g. patient falls, medical equipment failures) were better reported than the incidents which were gradual in development and also those that were caused by health workers themselves. And this was mainly due to a perceived culture of blame. These findings are consistent with a study by Kingston et al., [19] who found that health care practitioners' concerns were predominantly over issues of blame and punishment (e.g. job insecurity and threats to future employment).

O'connor and colleagues [20] conducted a systematic review of the literature on disclosure of patient safety incidents by both the patients and the health workers from different articles. Their findings were that both patients and health care professionals support the disclosure of adverse events to patients and their families. However, despite the support by health care professionals, they had their barriers or factors that hinder them from reporting (disclosing) incidents such as concerns over increased litigation costs, lack of institutional support and fear of loss of reputation or damage to career progression among other reasons.

Hewitt et al., [11] however, in their study, found that respondents were more of the view that reporting incidents was non-punitive, and that the intent was to learn from reported errors (incidents). In addition to that, the respondents suggested that medical errors in clinical practice don't favour their career, but reporting incidents should still be prioritized so that recurrence of similar incidents can be prevented in whatever way possible.

We can deduce from the findings of the current study that despite the healthcare providers being aware of maintaining patient safety, they were not willing to report incidents mainly for fear of being blamed which often leads to other consequences such as medico-legal litigations and loss of employment. The general understanding pertaining to the culture of blame is the belief that punitive action sends a strong message to others that errors are unacceptable and that those who commit them will be punished. However, this in turn brings in negative perceptions that the offender somehow chose to commit the error in some way, rather than them following the correct prescribed procedures.

One of the biggest challenges in changing the patient safety attitude (culture) among health workers and moving towards a safe health care system is a change from blaming people for errors to one in which errors are taken as opportunity to improve the system and prevent harm to patient. In recent years, the focus in thinking about incidents has shifted from the person approach (that is, blaming individuals for incidents) to the systems approach. To the contrary, using a systems approach to errors and failures in the system does not mean that systems thinking implies a "blame-free" culture. In all cultures, individual health professionals are required to be accountable for their actions and to maintain competence and practice ethically [21].

Institutional-related challenges

Policy guidelines and reporting systems

Some healthcare providers and managers have a strong belief that an effective reporting system is the pillar that anchors safe practice and, within a hospital or other health-care organization,

a measure of progress towards achieving a safety culture. Cooper et al., [22] stated that, it can almost be assumed that such systems would facilitate both the identification of systemic weaknesses that contribute to errors in health care and the learning necessary to prevent such errors recurring. However, in contrast to some other high-risk institutions, where learning from accidents, mistakes and system failures appear to have led to major improvements in safety, little evidence exists that such systems have led to general reductions in the incidence or severity of patient-safety incidents.

In the current study, however, the two hospitals had no clear incident reporting and learning systems, and patient safety policy guidelines that state/indicate how incidents should be reported and managed. This entails that there is little learning taking place from errors and that patients are being subjected to unnecessary harm whilst receiving clinical care. In developing countries, the burden of unsafe care is unclear due to inappropriate infrastructure, insufficient human resources and poorly developed incident reporting systems [23]. In addition, although several studies have demonstrated that specific interventions in the clinical care orders and processes might reduce the risk of incidents, many hospitals have no systems for recording incidents which are thus under-reported across health care organizations [24].

Infrastructural inadequacies and Overcrowding of patients

Inadequacy of bed capacity, among others, is a very big concern that makes it challenging to maintain some safety measures of patients. The current study has indicated that the hospital wards are usually overcrowded with patients so much that they improvise beds by laying mattresses on the floor. Bed inadequacies together with increasing rates of patient admissions, is the main reason of overcrowding in the hospitals, a situation which increases the risk of incidents and compromises the quick recovery of patients. For example, a study by Khorram-Manesh et al., [25] found that there were an increasing number of hospital-related incidents mainly caused by emergency departments' over-crowding, the lack of beds and technical problems in most departments. These incidents resulted in ambulance diversions and reduced the pre-hospital capacity as well as endangering the safety of patients. Like in many other parts of the world, reduction of hospital beds and corresponding staff in combination with increasing number of out-patient treatments and coordination of activities between nearly located hospitals, have been some of the solutions to handle the economical constrain on the health care system.

CONCLUSION

Policy guidelines on patient safety incident reporting and learning systems are a need in any healthcare system. The study revealed that there are inadequate policy guidelines regarding patient, a situation which makes health care providers to be reluctant to pay the greatest attention to patient safety. The findings of the current study further indicate that increased openness and honesty by health care providers following an incident can help minimize future occurrences of similar incidents by learning from the past incidents. Furthermore, there is under-reporting of incidents (errors) which is attributed to a number of different challenges such as the existence of blame culture, lack of standardized reporting system and under-staffing. This entails that there is less learning taking place among health workers. There is a lot more that need to be done in order to improve the safety of patients in most developing countries and thus, with the current trend, patient safety incidents (PSIs) will continue harming patients receiving clinical care as long as these barriers exist.

Therefore, we suggest the following recommendations based on the findings in this study;

1) In as much as patients have the right to appropriate treatment, there are no standardized guidelines laid out on how incidents harming patients and near-misses are to be reported once they occur. To this effect, government through the Ministry of Health (MoH) should consider formulating guidelines related to reporting of incidents related to healthcare delivery by frontline healthcare providers and managers.
2) Most developing countries face barriers in the implementation of best practice related to patient safety. And therefore, to overcome these barriers, there is need of establishing right governance structures, change of health workers' mindsets from negative to positive, and of course formulating evidence-based patient safety guidelines that are straight-forward.
3) There should be a standardized system of reporting incidents that does not criticize or punish the reporter but find means of preventing such from reoccurring for the purposes of learning.

4) There is need for future research studies to look into how patient safety incidents are reported by other healthcare professions such as Physiotherapists, Pharmacists and Laboratory scientists among others. In addition, future studies should also be carried out among policy formulators such as the Ministry of Health (MoH) and regulatory bodies as the current study was conducted among policy implementers.

WHAT IS ALREADY KNOWN

- Ongoing accidents of tragic harm to patients and the growing complexity of healthcare systems show the need to make healthcare safer, for the patients, as well as healthcare providers and society. Patient safety has been, and still is, a cause for concern in healthcare systems all over the world. For example, every year, approximately 900 000 incidents and near misses are reported around National Health Service (NHS) care of the United Kingdom (UK), of which about 2000 result in death. Furthermore, most of the patient safety and quality improvement efforts have been made at the international level, particularly by the World Health Organization.
- Recently, there have been more local organizations in the region with the aim of galvanizing actions to improve patient care including accreditation efforts connected to the United States based Joint Commission International (JCI) and the Council for Health Service Accreditation of Southern Africa (COHSASA) organization in South Africa. in the African region. An example of such countries in the African region is South Africa, which has in the last decade paid increased attention to patient safety.
- There is confusion among healthcare practitioners regarding incident reporting as to what should be reported and what should not. For example, it has been reported that only approximately 14% of all incident occurrences in hospital care are reported by staff in the United States.

WHAT THIS STUDY ADDS

- The current project has highlighted the major challenges that healthcare providers go through as they execute their duties. It has been shown that health workers do not report all incidents ranging from near-misses to severe adverse events for fear of consequences such as being punished as they perceived a culture of blame. This has consequently led to poor accountability of incidents such that incidents which are immediate, and often are better reported than the incidents which are gradual in development.
- Furthermore, institutional systems and infrastructural designs have also been said to be contributing factors to low incident reporting by health workers. It has come to light that health facilities lack adequate bed capacity as the number of patients keep increasing and this has led to poor reporting as workers get overwhelmed with the patient-health worker ratio. Also, it has been noted that there are no well outlined standardized guidelines or system of capturing incidents and this has been one of the major barriers faced by healthcare providers.
- Lastly, the findings of the current study are likely to stimulate further research as it has brought out some knowledge gaps that were previously not known and that the information obtained will be used for further reference on barriers to patient safety incident reporting.

DECLARATION

Competing interests There were no competing interests from all authors in this study.

Author contributions Gabriel B. Yali collected, analyzed and interpreted the healthcare providers' data regarding the barriers faced in reporting patient safety incidents. Selestine Nzala and Joseph Zulu offered guidance on how to write up a good and appropriate manuscript for publication. Furthermore, all authors read thoroughly and were satisfied with the final manuscript write up.

Ethics approval and consent to participate Ethical approval was obtained from the University of Zambia Biomedical Research Ethics Committee (UNZABREC) (Assurance No. FWA00000338 IRB00001131 of IORG0000774) on 24th May 2017. Permission to conduct the study was granted by the Livingstone University Teaching Hospital Administration. All participants were asked to consent by signing an informed consent form before being included in the study. All data collected were de-identified and used for research purposes only.

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