

Healthcare professionals' understanding and awareness of patient safety and quality of care in Africa: A survey study

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Abstract. In Africa there is currently not a wide knowledge of patient safety and healthcare quality. There is inadequate data to measure the scale of medical error and its impact on the healthcare. We investigated the frontline staff experience, their awareness of medical error and willingness to participate in patient safety initiatives. This is a qualitative survey involving 60 healthcare professionals in 2 private and 2 public hospitals in Nigeria and Uganda. Findings highlighted that frontline staff have a good knowledge and understanding of medical error. Thirty percent of the participants said errors occur frequently while only 3.3% were not sure of how often errors occur in their hospitals.

Inadequate research on patient safety in literature at present does not mean that medical errors or other issues that undermine patient safety do not occur in Africa. Factors that cause medical errors and the impact of such errors are known to healthcare professionals. They are willing to participate in healthcare improvement programmes. Our findings show the relevance of patient safety in the region and provide a focus for further work that would ultimately contribute to the identification of appropriate interventions that could improve patient safety in Africa.

Keywords: Patient safety, medical error, Africa, healthcare professionals

1. Introduction

Over the past several years, interest in patient safety has been growing steadily, triggered by increasing awareness of adverse incidents in healthcare highlighted by the media and a number of high-profile reports. The Institute of Medicine's (IOM) and Department of Health landmark reports, *To Err is Human* [7] and *An Organisation with a Memory* [5], extensively alerted everyone to the staggering statistics of the avoidable deaths and patient harm in hospital practice due to clinical incidents. The findings of both reports and escalating number of legal liability lawsuits [6] against healthcare organisations are rendering imperative the pursuit of global actions to improve safety and quality of care.

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As a response of this, the World Health Organisation (WHO), healthcare organisations and academic institutions, particularly in the developed countries, have been committing more and more resources to patient safety research. Besides research, there have been series of patient safety workshops, seminars and conferences. For instance, within this year there are Patient Safety Conferences scheduled to take place in Birmingham in Europe [11] and Abu Dhabi in the Middle East [1]. The WHO is also planning a conference on Injury Prevention and Safety Promotion in London [4]. All these events are in response to a new world order of modern healthcare which calls for a continuous search for new approaches and ways to drive improvement in the system. One way of achieving this is through the sharing and dissemination of best practices and policies, embedding innovation across all areas of healthcare provision in order to ensure a safer care.

2. Patient safety and healthcare quality in Africa

Where is Africa in the global spectrum of patient safety and quality of care? The first key meeting that emphasised the need for quality and safer care through medical error prevention was held in Nairobi, Kenya in January 2005. A similar meeting was held in Durban, South Africa in the same month. In both meetings, participants were encouraged to strengthen common action to address medical error and improve patient safety in the region. The importance of safer care was again stressed at the 58th session of the WHO Regional Committee for Africa which took place in Yaoundé, Cameroon [14]. At this conference, African healthcare sectors and institutions were called upon to prioritise patient safety by adopting treatments using the safest technology available and avoiding harm to patients [15]. At the end of the session, Ministers of Health from 39 African countries signed on to the WHO's patient safety global campaign tagged "Clean Care is Safer Care" [16]. During the Global Ministerial Forum on Research for Health which took place in Bamako, Mali in November 2008, the African region was again urged to take action to strengthen leadership and increase commitment in research and innovation if they are to overcome the great health challenges of our times [17].

Five years after the first call for action in preventing error in medical care in Africa, not much is known about patient safety in the region. There is no research evidence in the literature at present on the scale and consequence of medical error in the region [3]. However considering the level of development in the continent, millions of children and adult patients may be suffering from patient safety incidents: unintended or unexpected events that may lead to prolonged ill-health, injury, extended hospital stay, disability, disease or suffering and death caused by unsafe vaccinations, injections, blood transfusions, counterfeit or substandard drugs, unreliable equipment and practices, inadequate infection control, and overall poor health services, facilities and environments. Moreover, not a lot is known about any patient safety movement and their activity in the region. This study aimed at finding out the knowledge and awareness of the frontline staff in the region about medical errors. In other words, what is their perception of improving patient safety and do they experience medical errors in their practice? What are they doing or what would they like to do about the errors? This will help us get good predictors of the extent to which healthcare professionals could be engaged in order to contribute to real patient safety improvement in the region.

The aim of the present study was to begin to address this lacuna in the current knowledge about the state of patient safety in Africa. Specifically, we aimed to investigate systematically the levels of awareness of patient safety and care quality issues of frontline staff in African hospitals. We sought to elucidate their perceptions of improving patient safety, their experience of medical errors and potential solutions available to them and, or currently implemented.

3. Methods

3.1. Setting and participants

This was a survey study which was conducted in four hospitals that agreed to participate (one public and one private hospital) in the western part of Nigeria and Northern part of Uganda.

Purposeful sample method was used and the survey tool was distributed to 80 members of staff who met the criteria. The criteria were healthcare professionals (doctors, nurse, pharmacists clinical officers, medical laboratory technologist and technicians) over 18 years of age, who were working in the hospitals, able to fully understand and express themselves clearly in English language and willing to participate in the study. Medical students, student nurses and pre-registration pharmacist were excluded. The Principal Investigators (PIs) made it clear to the staff that participation was voluntary and that they were free to withdraw from the study at any time.

The study was approved by relevant Research Ethics Committees in all the hospitals. The local principal investigators in each country outlined the purpose of the study and distributed the questionnaire to the members of staff.

3.2. Survey tool

The survey was developed using items taken from the patient safety and healthcare quality literature [9, 12] and expert input. Most of the items were open-ended, designed to help the participants to provide information about their knowledge and experience of the topic in their own words. The questionnaire was piloted by five healthcare professionals from different countries in Africa namely Cameroon, Ghana, Nigeria and Tanzania. Surveys were anonymous. The instructions and assurances of confidentiality of the participants were given on the first page of the questionnaire.

4. Results

Sixty-one questionnaires were returned (80% response rate), one questionnaire was subsequently excluded because almost all the question items were left blank. Thus 60 (75%) were used in the analysis.

Twenty-six (43%) of the returned questionnaires were from doctors, 17 (28%) from nurses, 5 (8.5%) from pharmacist, 7 (11.7%) from clinical officers and in 5 (8%) completed questionnaires the job title of the respondents was not stated.

4.1. Staff knowledge and understanding of medical error in healthcare

Seventy-five percent of the staff viewed adverse events as mistakes made by healthcare personnel in the course of patient treatment or management. Some of the specific expressions of what such errors means to them are presented in Box 1.

According to the staff they actually experience medical errors in their hospitals. In terms of how often these errors occur, 18 (30%) of them said frequently, 14 (23.3%) occasionally and the same number said rarely. Only 3 (5%) of the participants said they never experience medical errors and 2 (3.3%) did not

Box 1

Examples of staff's perceptions of adverse events

- Wrong clinical assessment due to lack of detailed complaints, history and physical examination;
- Applying wrong treatment on right patient diagnosis;
- Error in drug prescription, reporting and administration hence overdose or under medication with the prescribed drug;
- Caring for patient in an unsafe environment and in an unprofessional manner;
- When patients are not given proper care in time or appropriate action is not taken in time;
- Adverse events experienced by patients due to poor management;
- Events that can lead to death or suffering of patients;
- Putting patients' life as risk;
- Administration of injection when oral medication can have the same effect;
- Iatrogenic incidents;
- Negligence, ignorance or omission that can adversely affect a patient;
- Inability to communicate information to patients thereby causing delays in patient care;
- Miscalculation of drugs damage/effect and
- Poor quality care.

know how often medical errors occur in their hospitals. Examples of medical errors that occur in the hospitals:

- Patient was not attended to in time and the patient's condition worsened. Even when examined vital signs were missed and patient came back with severe anaemia;
- A wrong tooth was extracted from a patient due to impatience and wrong examination;
- A wrong drug was prescribed for a pregnant patient, but was detected and corrected before dispensing;
- A patient was given a certain drug even though it was impossible to trace whether the patient had already received the drug as it was not documented, leading to drug overdose and
- Patient had infection because the medical staff carried out the examination of patients without washing hands in between the examinations.

4.2. *Staff knowledge and understanding of the impact of medical error*

Staff were aware that error could cause suffering to the patient and could even lead to death. They understood that medical error could damage their hospitals' reputation and equally cost them their job. Further detrimental consequences according to the staff were that as a result of errors they could feel depressed, guilty and remorseful. The results also showed that medical error could lead to the staff being prosecuted or imprisoned, lack of respect and confidence by colleagues, embarrassment, loss of confidence and trust in the staff by patients, the management and community. Moreover they showed that the staff could suffer psychologically, especially where the patient is disabled or dies. They could also lose interest in the work due to lack of self confidence and the staff might lose their professional licence or resign.

4.3. *Staff knowledge and understanding of factors that cause medical error*

Box 2 summarises factors which the staff viewed as the cause of errors in healthcare.

Box 2

Factors that cause medical error

- Lack of trained, skilled, experienced and qualified staff;
- Large patients/healthcare workers ratio, increased workload, pressure and longer working hours leading to stress, tiredness, fatigue and exhaustion;
- Poor remuneration, low morale and lack of motivation;
- Lack of resources including shortage of manpower, unskilled professionally, lack of drug supplies, laboratory diagnostic facilities or aids, and poor lighting in wards/consulting rooms;
- Inadequate update in medical education and lack of up-to-date knowledge;
- Human factor including negligence, ignorance or nonchalant attitude;
- Wrong labeling of healthcare products;
- Incompetence of healthcare workers and their impatience in dealing with patients;
- No treatment protocol for case management and
- Poor communication between healthcare professionals and patients including insufficient information and lack of clarification leading to delayed medical intervention, misdiagnosis, poor judgment and inaccurate decision.

4.4. *Staff's views on the remedy for service quality improvement in healthcare*

The staff did not only express their willingness to learn more about patient safety and how to prevent medical errors, but actually listed some of the methods of learning they would prefer. These include seminars, conferences, symposia, Continuing Medical Education (CME), interactive sessions, short courses, workshops, training aids and video and using information sources such as the Internet, publications, handouts and newsletters. They also suggested that further training in patient safety through Masters or PhD programmes, which would allow for exchange of information with other parts of the world in the field, thereby helping in the understanding of wider issues and solutions.

5. Discussion

To our knowledge, this is the first study to examine healthcare professionals' knowledge and understanding of medical error in Africa. Our findings show that healthcare professionals in the region are not only aware of medical errors but equally experience errors and are willing to play active roles in reducing and preventing such errors. They are willing to improve the quality of care and enhance patient safety in the region.

To date studies exploring the feasibility of using hospital data sources to identify patient safety incidents in Africa are lacking, despite the value of such information in gaining a greater understanding of key patient safety issues. A key problem in African hospitals is that such data are not routinely collected with the aim to assess safety or quality of care. Therefore any existing data may be limited (and potentially biased). There is also a question of the willingness of staff to record incidents as they occurred, including all sensitive information especially if the hospital's culture is perceived as not being open and fair. In the light of such limitations, our method of engaging the frontline staff in identifying clinical incidents and their impact on patients might be the most effective means of providing a better picture of patient safety issues in the region. Staff engagement has provided useful information in shaping their mindset and triggering the development and implementation of corrective solutions aimed at preventing reoccurrence

of the incidents and thus promoting patient safety. In Africa, it is the healthcare professional who will initiate and lead the way in patient safety.

While our findings clearly advocate that healthcare professionals' engagement offers promise as a key initiative for patient safety improvement in Africa, we recognised a number of limitations of this study. The sample method used in the study was non-probability sampling which is less reliable than random selection. In addition to the fact that the study was carried out in four hospitals in the region, there was an issue of non-response bias as we were unable to collect data on non-responders due to the anonymous design of the survey tool. In order to limit the questionnaire burden, potential important questions may have been excluded. For instance, we did not include questions on the means of recording clinical incidents that occurred in the hospitals and what the reports are currently used for.

In terms of future research, the new bidirectional initiative of WHO Patient Safety, that is, African Partnerships for Patient Safety (APPS) [18] is a key potential next step. This initiative would offer numerous opportunities for the healthcare professionals and researchers in the region and their organisations to participate in patient safety and healthcare quality programmes within the continent and at an international level. But the healthcare professionals in the region will have to find out ways of getting the government in their individual countries involved in the patient campaign. This is important in the sense that, the chances of patient safety initiatives succeeding in any of the African countries without a strong support and a clear programme of action from the governments is almost non-existent. Government action in the form of legislation or strategic guidance which could help in developing evidence-based practice, care auditing and monitoring is very important. The early engagement of the healthcare professionals is necessary, but not sufficient for improving patient safety in the region. Achieving the ultimate goal of improving patient safety in Africa requires the full participation by all the stakeholders; patients, public and private sectors, and the government in particular. It is a common adage in Africa that "Health is wealth". The government in the region must not only focus on the economy and the security of their country, but must also take full responsibility for the quality of care provided by healthcare organisations in their countries. They must take responsibility of ensuring the safety of people who come into contact with health services in their country as another means of improving their economy.

Further research is required to find out the scope and scale of patient safety incidents in Africa, the existing safety culture and how to promote the culture of reporting and learning from incidents in the region. There are strong and widely held views about the strength of patient involvement in improving safety in healthcare [8]. This is another area to be researched in Africa, that is, how best to get the patient involved, taking into consideration the structure of the healthcare system in the region and the level of literacy. Such involvement which occurs in the form of informing, consulting and partnership [10] could lead to patients making safer choices about where to be treated [13] and also assist in driving quality improvement initiatives.

6. Conclusion

A lot is written about inadequate healthcare facilities in Africa, but patient safety and improvement in the quality of care is not all about facilities. Clinical incidents still occur in healthcare systems with the best facilities and technology. Although there is a need for more state of the art healthcare facilities in Africa, a great deal of attention should equally be focused on how best the current and existing facilities are being used from a patient safety point of view. It is only then that we will witness a dramatic and positive change in the quality of care services in the region. Excellent knowledge and understanding of patient

safety could prove beneficial in several ways. It could help in defining standards for quality care, putting in place processes for achieving the standard and measuring whether such standards have been met. With the experience of patient safety more will be done in the region to ensure openness and accountability including learning from patient experiences, good and bad, in improving the way healthcare systems and care are designed and delivered.

As our findings showed, healthcare professionals do experience medical errors and are keen to play active roles in reducing or preventing such failures including learning from their mistakes. In other words, the healthcare professionals in the participating sites have met the first precondition for improvement in healthcare which is defined as "will" [2]. However, factors that drive stakeholders' involvement in patient safety in Europe and America might be different in Africa. Since no meaningful solutions to patient safety in Africa can be achieved without the involvement of the government, further research is required to find out how to get the government involved. This study include the reason for the limited achievement in this field in order to learn how to put the needs of patients and their safety at the centre of the health service in Africa.

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