



A descriptive survey of patient's knowledge and reactions to medical errors in hospitals in Lafia LGA, Nasarawa State, Nigeria.

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Abstract

It is unarguably a fact that the health institution that was intended to save lives has invariably become a transit route to the irrecoverable journey to death & disability by reason of the occurrences of medical errors in hospitals. This study was carried out to find out the common medical errors, patients awareness and their willingness/unwillingness to report medical errors in Hospitals in Lafia LGA. The study employed the survey design using questionnaires and key informant interviews to elicit data from patients and hospital workers, thereafter, the Statistical Package for Social Sciences (SPSS) was used to input data and subsequently analyzed using descriptive statistics and manual content analysis to analyze data. Results indicated that the commonest medical errors was the one related to drug and dosage errors or drug timing (76.7%), followed by wrong diagnosis (70.3%) and surgical errors (66.8%). Almost 90% of patients heard of medical errors while over 70 percent were aware and almost fifty percent experienced medical errors but only 26.7% have ever reported medical errors. It was obvious from data that while a majority of patients are aware and have experienced medical errors only a very negligible number have reported. There is an urgent need to educate patients on the need to report medical errors in order to prevent the occurrence and save their lives and lives of others.

Keywords: Medical error, Health, Patients' knowledge, Hospital, Lafia, Nigeria.

Introduction

Health services throughout the world strive to provide care to people when they are unwell and assist them to stay well. Medical services are offered by medical practitioners throughout the world but with increased use of medication by a growing population comes a growing risk of harm. Adegboyega (2018) was of the opinion that despite advances in medicine, hospitals and other facilities have become death traps for patients as they suffer medical errors. As health workers deal with matter of life and the health of a patient, they are also faced with challenges of medical errors that cause direct or indirect harm to the patient. Medical errors are common place in the medical world. In previous years, reporting of medical errors was limited to in the event of death and an investigation made (autopsy) and established that the individuals' death resulted from an error or mistake from the healthcare giver (Chang, 2007). It has long been recognized that attempts to ameliorate the effects of injury, illness and disease could themselves lead to harm (Illich, 1976). However, general acknowledgement that illness, injury and diseases resulting from medical errors may be due to preventable human error or system failure appears to have been slow in coming (Illich, 1975). It is the primary responsibility of a medical practice to save the lives of patients, however, during such processes of life saving, so many irregularities may occur and which may directly or indirectly harm the patient, medical error is an umbrella term for all such errors including mishandled surgery, diagnostic errors, equipment failures, medication errors etc.

Human errors in the delivery of healthcare services has a serious threat to patients who may be on treatment (Ushie, Salami, Jegede & Oyetunde, 2013). Medical error has been considered a significant cause of morbidity and mortality among patients which follows with grave consequences for family and public health, errors in the health care system have always been a

challenge since the Hippocratic dictum “first do no harm” (Iloh, Chuku & Amadi, 2017). In the old years of medicine, it was not well recognized that patients actually die from the treatment that they receive rather than from the disease for which they seek treatment. Medical error may be difficult to measure not just due to inadequate reporting but a chain of events which may include varied definition, incidents of medical error and not just a single act, for example prescribing the wrong dose of drug may be counted as a single error and named “error of prescription”, but this error may have occurred because the patient did not give full disclosure of information or the patient’s medical record contained a false body weight or because a laboratory report was missing or inaccurate (Schwappach & Wernli, 2010)

In relation to patients’ responses, medical errors come to the attention of the law through the complaints that arise from the relations of the victim. Because of religious and other sentiments, relatives and victims seldom institute court actions or lodge complaints to regulatory bodies for redress. Chukuneke (2015) established that victims of medical errors in Nigeria, are mostly the less privileged, who also do not have the wherewithal to file legal actions against the hospital or medical practitioner in the event of medical errors. Even though cases of medical errors are common in both privately and publicly funded health facilities, it is worthy of note that most of the cases only appear on the pages of the newspapers. While appreciating the role of the mass media in creating public awareness on medical errors, it is important to state that the mass media only is not enough as scientific investigations are needed to establish facts on the causes and reactions of patients to medical errors.

Inadequate research on patient safety and reaction to medical errors in literature at present does not mean that medical errors or other issues that undermine patient safety does not occur in Nigeria and Nasarawa state in particular. Factors that cause medical errors may be known to

health care professionals but may not be known to the service consumers. The importance of this knowledge gap must not be underestimated as it is considered a serious limitation to understanding the extent of the problem posed by medical errors on victims in Nasarawa state, Nigeria. This study is therefore capable of contributing to the stock of knowledge by researching into the awareness of the patients, the types of medical errors, factors responsible and the reactions of patients. This study was therefore undertaken to explore patient's knowledge and reactions to medical errors in hospitals in Lafia L.G.A. of Nasarawa State, Nigeria. The study generally sought to find out the level of patients awareness and their different reactions to medical errors. However, specifically the study sought to: find out common medical errors, patients' awareness and willingness/unwillingness to report such errors and why.

Literature Review and Theoretical framework

It is in the view of Illich (1976) that medical technology is breathtaking but equally rhetoric to create the impression that modern medicine is highly effective. The study of Madeira, Melo, Porto, Monteiro, Peeira de Moura, Alexandrino and Moura (2007) revealed that in the U.S., 225,000 deaths result from iatrogenic and medically inclined errors, thus, a major leading cause of death after heart disease and cancer.

The issue of medical errors is not new, but in the past, the problem has not received its deserved attention. According Iloh, Chuku and Amadi (2017) Human errors in health care delivery have always been a challenge since the Hippocratic dictum "first, do no harm". Medical errors are human errors in the process of care delivery and it is a significant cause of morbidity and mortality among patients with grave consequences for family and public health. According to Bhasale, Miller, Reid and Britt (1998) the term medical error refers to "an unintended event, no matter how seemingly trivial or commonplace that could have harmed or did harm a patient. An

act or omission for which the physician felt responsible and which had serious consequences for the patient". This definition encompasses illness resulting from an unplanned action however little, something that was either done or not done to the patient during illness, for example a patient who was not given timely response when the case was reported to the health facility may end up treating more severe health issues beyond what was actually reported. Literatures reviewed, revealed that a significant number of inpatients who suffered adverse event due to medical error resulted from surgery, complications from drug treatment, therapeutic mishaps, diagnostic errors, incorrect diagnosis, choosing the wrong medication, missed and delayed diagnosis, are but to mention a few the most common types of medical error (Weingart, Wilson, Gibberd & Harrison, 2008).

Health belief model (HBM)

The focus of this section is to gain theoretical perspective into the understanding of the different forms of patients' response to medical errors and their desire to seek redress for being victims. The Health Belief Model (HBM) which may otherwise be considered the most popular and oldest models in any health related research. (Aleh & Hassan, 2019). The theory emanated in the 1950s from the works of social psychologists in the United states of America in an effort to explain why public members did not participate in health programmes. Thereafter extended by Leventhal, Rosenstock, Becker and others to gain an understanding of the different reactions to illness and the variations in adherence to treatment (Janz, Champion & Strecher, 2002). The HBM was also influenced by Kurt Lewin whose works presented a position that it was perceptions that influenced behaviour rather than objective reality. Therefore, in this case, health behaviour are influenced by the confidence that the recommended action will achieve the desire to get well or avoid illness. It emphasized in the model that personal features, perceptions socio

demographic factors such as social status, class, ethnicity amongst others are associated with health behaviours. Health decisions are further broken into a series of stages and offers different variables that influence health action. The HBM therefore suggests that a person's will to respond to a health issue is influenced by their subjective weighing of the costs and benefits of the action. The perception involves the following elements:

- a. Perceived susceptibility
- b. Perceived seriousness of the condition.
- c. The person's judgement of his or her risk of contracting the condition.
- d. The severity of the condition (its clinical consequences, disability, pain or death) and its impact on life style (working ability and social relationships etc).

If perceived susceptibility is successfully combined with seriousness, it can be further termed as perceived threat. It has a cognitive component and is influenced by information which creates the pressure to act or not but does not determine how the person will act or not, that is influenced by the balance between the perceived efficacy and cost of alternative course of action. The balance between benefits and cost may suggest the person's likelihood of acting and their preferred course of action but do not necessarily determine that they will act or not. The HBM finally suggests: a stimulus or cue to action. That when an individual is motivated and can perceive a beneficial action to take, actual change often occurs when some external (physician, relative or friends advice) internal (change in health) cue triggers action. The magnitude of the cue required to trigger action would largely depend on the motivation to change and the perceived benefit to cost ratio for the action (Rosenstock, 1974; Janz, Champion & Strecher, 2002).

The application of the HBM to the study of medical error and patients' response is unique and provides a theoretically grounded approach to explain patients' willingness/unwillingness to

identify and report a medical error. It is therefore hypothesized from the HBM that patients perception and will to seek redress for medical error is influenced by their perception and level of understanding of the condition. Additionally, given the results of this study and previous researches undertaken by the theorists, self-efficacy was identified to be a unique construct within the HBM as a mediating factor between awareness of benefits versus barriers to the reactions of patients in seeking redress to medical errors in medical care.

Coping response theory

The coping response theory by David Mechanic (1962, 1966a, 1968, 1978; Mechanic and Volkart, 1961) was adopted to support the prepositions of the HBM. The coping response theory was developed as a health seeking behaviour to facilitate an understanding of how individuals act when seeking a health care. Mechanic traces the variations in how people respond to illness and the differences in how they define the health situation and the difference in their ability to cope with the situation. As individuals mature through life stages, they are socialized within families and communities to respond illness in particular ways, therefore, the ability to respond to illness are both culturally and socially determined. Part of the socialization is observing how others within the group respond to illness and noting the reactions (positive or negative) their behaviours elicit. Sociologists refer to this process as the social construction of illness. Mechanics identified ten (10) factors (sometimes overlapping) that determine how individuals respond to symptoms of illness: (i) Ability to identify and recognize symptoms: However, trivial a symptom may be, so many symptoms present themselves in a striking fashion, for instance in the form of a sharp abdominal pain, an intense headache, and a high fever. Other symptoms have such little visibility (as in the early stages of cancer) that they require special check-ups to be detected in their early stage. (ii) Severity of symptom: if the symptom is familiar, and the person understands why he

has the symptom and what its probable course will be, he is less likely to seek care than if the symptom is unusual, strange, threatening, and unpredictable. (iii) Symptoms disruption of family, work, and any other social activity: symptoms that are disruptive, and which cause inconvenience, social difficulties, pain, and annoyance are more likely to be defined and responded to than those that do not. (iv) Symptom frequency of appearance, persistence and recurrence: the more persistently ill a person feels, other factors remaining constant, the more likely he is to seek help, and frequent or persistent symptoms are more likely to influence a person to seek help than occasional recurring symptoms. (v) Tolerance threshold and evaluation of signs and symptoms: an individual's tolerance for pain and discomfort and his values about stoicism and independence, may also affect how he responds to symptoms and what he does about them. Persons vary a great deal in how much discomfort they are willing to tolerate and the attention they give to bodily troubles. (vi) Available information, knowledge, cultural assumptions and understandings: The sophistication of patients about medical matters varies from those who are aware of the latest therapeutic developments even before their doctor to those who cannot identify the basic body organs and who have only very naïve notions of bodily functioning. Such differences in medical knowledge and understanding have considerable influence in how people recognize, define, and respond to symptoms. (vii). Perceptual needs: which lead to autistic psychological processes, anxiety and fear may impact on symptom recognition and the decision to seek care in complex ways. Anxiety about illness may prompt quicker care-seeking, but fear of particular diagnoses may delay seeking help. For instance in the case of covid19, in Nigeria, the fear of such diagnosis discourages patients with likely symptoms from seeking medical care. (viii) Needs competing with illness response. People assign varying priority to health. While illness symptoms might be a central focus for some, family and

work-related activities are more important to others. (ix) Competing possible interpretations: People who work long hours expect to be tired, and are therefore less likely to see tiredness as indicative of an illness. People who do heavy physical work are more likely to attribute such symptoms as backache to the nature of their lives and work rather than to an illness condition. (x) Availability of treatment resources, physical proximity, and psychological and monetary costs of taking action. The cost of treatment, convenience of treatment, and the cultural and social accessibility of the provider all impact on the care-seeking decision.

As can be seen from ten (10) factors in Mechanic's (1986) theory of health-seeking behaviour, it is enough to understand that there are several factors that influences an individual to report a case of medical error in the hospital.

Methodology

A survey design was adopted for the study, employing both quantitative and qualitative instruments. The study adopted survey design in order to provide adequate framework for the data that examines patients' knowledge and reaction to medical errors. The Yamane Taro sample size determination formular was used to determine the sample size of 400 respondents from a population of 330,712 population (NPC, 2006) in Lafia LGA.

The study was carried out in Lafia LGA. The 2006 National Population Census was the sampling frame that was used and a representative sample of 400 respondents were drawn using the Yamane Taro formular. 5 hospitals in Lafia were purposefully selected for the study, however, only 2 hospitals approved the study – KOWA and Dahatu Araf Specialist Hospital.

A questionnaire was designed and used to generate data from adult patients, patient relatives and caregivers. The questionnaires were administered to 400 respondents but only 343 were valid

and returned. While key informant interview was undertaken with only about 3 senior doctors from the hospitals as other doctors declined the sessions.

This study was concerned with unraveling the occurrence of medical errors and the different responses patients give. Data collected was inputted into the Statistical Package for Social Sciences. Subsequently, descriptive statistics were used to analyse the data while qualitative data was analysed using manual content analysis. Furthermore, descriptive statistics was used to represent the data in percentages.

Results

This section presents the results of the findings of the study and discusses them according to objectives.

Types of medical errors

Medical errors relating to drug and drug dosage comprised of the following errors: wrong time of drug administration; wrong dose; wrong drug; wrong route for drug. Errors relating to Surgery were: surgical errors; omitted pre-operative investigation; inappropriate pre-operative management; forgotten materials in parts of the body; wrong surgery site; omitted post-operative notes; failure to provide post-operative treatment; improper transfusion; failed surgery. Errors relating to diagnosis and treatment were: omitted treatment; wrong patient; wrong diagnosis; delayed diagnosis; inappropriate investigation; omitted diagnosis; failure to use result; inadequate history and examination; misinterpreted diagnosis.

S/N	Medical errors	Frequency	Percentage
Drug and drug dosage errors			
1	Wrong time for drug administration	263	76.7
2	Wrong dose	237	69.1
3	Wrong drug	239	69.7
4	Wrong route for drug	151	44.0
Surgery errors			
5	Surgical errors	229	66.8
6	Inappropriate pre-operative management	120	35.0
7	Omitted pre-operative investigation	85	24.8
8	Forgotten materials in parts of the body	218	63.6
9	Wrong surgery site	174	50.7
10	Omitted post-operative notes	112	32.7
11	Failure to provide post-operative treatment	114	33.2
12	Failed surgery	217	63.3
Diagnosis and treatment error			
13	Omitted treatment	149	43.4
14	Wrong patient	159	46.4
15	Wrong diagnosis	24	70.3
16	Delayed diagnosis	229	66.8
17	Inappropriate investigation	138	40.2
18	Omitted diagnosis	169	49.3
19	Failure to use result	221	64.4
20	Inadequate history and examination	157	45.8
21	Improper transfusion	191	55.7
22	Misinterpreted diagnosis	215	62.7

Source: Authors field work, 2019

The information in the forgoing table agrees with the qualitative data gotten from the key informant interview sessions:

Medical errors could be as I earlier said in terms of a doctor who is intending to prescribe a particular drug with it appropriate dosage and instead of getting the appropriate dosage he probably did it wrongly and therefore a wrong dosage has been prescribed or the doctor is right in his prescription but at the point of dispensing either an over dose or under dose is given to the patient, either of them is an error. This are some common errors we see from time to time. (Interview 1).

Some common errors are drug over dosage, wrong diagnosis, wrong treatment to the wrong patient, failed surgery amongst many...but it is not usually the faults of the doctors only, sometimes the patient caused it maybe because of nondisclosure of some information that could have helped in proper diagnosis. (Interview 2).

Table 2: Patients Awareness of medical error

Items	Frequency			Total (%)
	Yes (%)	No (%)	No response (%)	
Ever heard of medical errors?	295 (86.0%)	40 (11.7%)	8 (2.3%)	343 (100%)
Understand medical errors?	272 (79.3%)	63 (18.4%)	8 (2.3%)	343 (100%)
Aware of types of medical errors?	253 (73.8%)	82 (23.9%)	8 (2.3%)	343 (100%)
Experienced any medical error?	161 (46.9%)	172 (50.1%)	10 (2.9%)	343 (100%)
Is medical error a threat to life?	284 (82.8%)	50 (14.6%)	9 (2.6%)	343 (100%)

Aware of how to report medical error?	108 (31.5%)	227 (66.2%)	8 (2.3%)	343
				(100%)

Source: Authors field work, 2019

Of the 343 respondents to this study, 161 representing 46.9% claimed to have experienced medical or being a victim of at least one form of medical error before and 172 respondents representing 50.1% had not experienced any form of medical error, while 10 (2.9%) gave no response to the question. Two hundred and eighty four respondents representing 82.8 percent stated that medical errors pose a threat to human lives while 50 (14.6%) did not think that medical error could pose a threat to human lives and 9 (2.6%) did not answer the question. From these response it can be deduced that a significant percentage of the population have experienced medical errors in hospitals in Lafia local government and a more higher percentage think that it poses a threat to human lives. However, 227 (66.2%) respondents identified that they were aware of how to report a medical error, but 108 (31.5%) are not aware of any means of reporting a medical error.

Generally Lafia is not a very cosmopolitan kind of city but majority of the people who patronize the hospital can be classified as illiterates they are not able to read and write, they don't know, what is been given to them, all that is important is that some drugs were given and some oral instructions were given either take this once or twice daily etc. It's another thing for the patient to understand the language that the instruction was given so sometimes the error is from the patient themselves that they didn't understand what he was instructed to do instead of taking maybe one tablet he decided to take two or instead of taking it once a day he decided to take it twice a day because he believes the more he takes the drug the better the cure for his ailment so you get medical error in different categories, it could be from the doctor or the nurse or pharmacist or the patient who is taking the drugs himself or herself. Am not sure they are aware of that. (Interview 1)

In lafia patients don't know what medical errors are, in fact here patients don't think doctors could ever make a mistake, it is perceived that the hospital is a place where lives are saved and nothing more. The level of illiteracy here affects their understanding of medical errors. (Interview 2)

Table 3: Willingness/unwillingness to report medical errors

Reported medical error before?	Frequency	Percent (%)
Yes	88	26.7
No	244	71.1
No response	11	3.2
Why didn't you report medical errors?		
Fear of being blamed or punished	104	30.4
Difficulty in filling a form	100	29.2
Lack of knowledge on what to report	169	49.3
Complexity of work	86	25.1
Lack of procedure for reporting medical errors	168	49.0
No confidentiality	101	29.4
Some medical errors are trivial to report	119	34.7
It is not my responsibility to report	56	16.3
It will not make any improvement	83	24.2
Lack of time	87	25.4

Source: Authors field work, 2019.

Table 3 above represents data of respondent who have reported a medical error before. 88 representing 26.5% of the respondents identified to have reported a form of medical error before and 244 representing 73.5% have never reported any form of medical error before, while, 11 (3.2%) did not respond to the question. This reveals that a significant population have never reported medical errors before.

The qualitative data, supports the quantitative which suggests that patients are not willing to report cases of medical errors. But one of the senior doctors of Kowa and DASH hospitals asked the question: can they report what they don't know? That only means that patients don't report because they don't know about it.

Discussion

Results showed that there are several medical errors in hospitals, wrong time for drug administration; wrong dose; wrong drug; wrong route for drug (drug and drug dosage errors); surgical errors; inappropriate pre-operative investigation; omitted pre-operative investigation; forgotten materials in parts of the body; wrong surgery site; omitted post-operative notes; failure to provide post-operative treatment; failed surgery (errors related to surgery); omitted treatment; wrong patient; wrong diagnosis; delayed diagnosis; inappropriate investigation; omitted diagnosis; failure to use result; inadequate history and examination; improper transfusion and misinterpreted diagnosis (errors related to diagnosis and treatment). The doctors agree “mutantis – mutandis” with the patients to note that medical errors occur in the hospitals for example a doctor noted “...in terms of a doctor who is intending to prescribe...” This in line with scholars like Iloh, Chuku and Amadi (2017) in their study conducted in Abia state where it was discovered that the practice of medicine in Nigeria is not error-proof which is also similar to cases reported around the world. However, it varies in terms of frequency of occurrence and level of reportage. Some common errors committed are prescription errors, doctors' diagnoses, surgical errors, treatment procedural errors, radio-laboratory investigation ordering (Iloh, Chuku & Amadi, 2017).

The quantitative data from patients revealed that most persons who participated in the study had heard about medical errors, understand medical errors, are aware of the types of errors

committed in the hospital and know that it is a threat to human life. A significant percentage of persons have experienced medical error, however, not many are aware of how to report nor what to do in such cases. This however contradicts significantly with the opinions of the doctors where they said “patients are not aware of medical errors and do not see the hospital as a place where errors happen”. This findings contradicts that of Ushie, Salami, Jegede and Oyetunde (2013) whose findings reported a high rate of awareness of medical error to pose a serious threat to patient safety, although, they noted that the level of awareness was influenced by level of education. Hence, there is a relationship between education and the level of awareness of medical errors. It was discovered during this study that though majority of the respondent were of tertiary education, it did not reflect in their abilities to respond to the research instruments as the researcher and research assistants had to keep interpreting and explaining the questions to the respondents for them to be able to respond appropriately.

The study revealed that patients, though victims of medical errors, are not willing to report as the percentage of persons who reported were far less than those who reported cases of medical errors. However, the study also revealed the following as the reasons why patients do not report medical errors: the fear of being blamed or punished; difficulty in filling a form; lack of knowledge on what to report about; complexity of work; lack of procedure for reporting medical errors; no confidentiality; some medical errors are trivial to report; it is not my responsibility to report; it will not make any improvement and lastly for the lack of time to report.

Conclusion/Recommendation

The main objective of this study was to find out the common medical errors and the level of patients awareness in. The survey methods was used to gather data and discovered that there was a high rate of occurrence of medical errors in hospitals in Lafia, doctors are aware of the

occurrence of errors and the patients are also aware but usually unable to report. The revelations of this study presents a life threatening situation to patients who patronize hospitals. Following from here the study hereby recommended that:

- Patients' awareness programme or campaign against medical errors should be created to enlighten patients on their rights and the need to participate in patient safety.
- Patients should be encouraged on a regular basis to report any form of medical error they notice.
- Medical personnel should also be enjoined to report any case of medical error, where such is not done the personnel involved should be sanctioned when discovered.
- Automated anonymous hospital feedback forms should be made available for patients to submit their reports on services received from the hospital.

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