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Exploration of Responses of Victims Exposed to Medical Errors by Doctors in Khartoum State 2021-2022

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Abstract: The aim of this study was exploring responses of victims toward medical errors committed by treating doctors in Khartoum State. The general objective is to explore the response of victims exposed to medical error and to identify the types of response. It was a community-based cross-sectional descriptive study. the study involves participants from the biggest three cities of Khartoum State. Data was collected by in-person interview using structured questionnaire. Data was analyzed by SPSS software programme. Frequencies and proportions were calculated and recurrent them for categorical data. The sample size was calculated to be 384. The study revealed that 76 (19.9%) of the participants were exposed to medical error. Approximately half of the participants who exposed to medical error either did nothing or talked to a friend and/or family about the error. Only four out of 76 filed their cases. In response to qualitative questions they claimed that after discovering the error and its effect their emotions ranged from anger to disappointment and fear. There was a diversity in the reasons of why some participants did not purse their legal rights and two of the four who have chosen to do so did not have a final closure of the file. One in five people can experience a medical error over the course of their life. Responses from different people when exposed to medical error come in different shapes and sizes. These responses range from being silent and talking with someone close to writing in newspapers and social media to sue the doctor in charge.

Keywords: Medical Error, Patients' Response, Complaints

1. Introduction

Along with an increase in the number of diagnostic tests and modern means of treatment options, there has been an increase in the potential for medical errors and harm. As many treatments and diagnostic tests carry their own risks. The potential for harm is further increased by the number of health professionals involved in the care of any one patient and the size of healthcare institutions. Estimates from the United States suggest that medical errors result in the death of up to 98 000 patients each year, which would make it the eighth most common cause of death in that country [1]. Medical errors are the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim [2].

In the medical field, all kinds of errors are significant, and can have potentially dramatic effects. It was found that the incidence of error included and affected all types of medical professionals at different stages of administration of medical care. This includes physicians, physician assistants, pharmacists, nurses, and administrative personnel [3].

A number of healthcare organizations and government agencies have lists of medical errors on which they focus. However, they are discussed in the lists of the most commonly encountered errors. Medication events (including adverse drug events/reactions), healthcare-associated infections (HAIs), surgical errors, laboratory errors, patient falls and pressure sores [4]. Whether the error was minor or major, it will definitely affect patients' lives, so patients react in many different ways.

Recent years have witnessed increasing awareness of patients and their families about their health and safety rights. A growing body of news describes that patients may take actions against doctors whom they think they committed errors in diagnosis and/or treating their diseases [5, 6]. However, the response of patients or their families is different. Some of them publish their complaints in the daily newspapers or through the social media, while others go to law and use their rights to sue the doctor(s). Some complaints might be deemed valid by the disciplinary board or the court and the doctor would be subjected to some sort of punishment. Procedures that might follow a patient complaint might have an impact or effect on performance of doctors' whether they are involved in disciplinary procedures or not [7].

In response to patients' complaints, the State of California has issued 354 administrative penalties to 192 of the state's 495 general and psychiatric hospitals [8].

Therefore, the perception and response of victims to medical errors are different. Exploring the public's views towards errors and knowing patients' actions are important components in the process of medical care. Most of the available studies focused attention on clinicians' response. Thus, to our knowledge, there is a gap in the patient's understanding and reaction to the error when it occurred. This study will spotlight the response of victims to medical error and the proportions of each response among patients who were exposed to medical errors.

2. Methodology

2.1. Study Design

A community-based descriptive cross-sectional design was used to accomplish the study. Study area: The study was conducted in Khartoum state, which is the capital of Sudan. It's the largest metropolitan area. It also has a large number of public and private hospitals with numerous working doctors and other medical workers. The most populous state in the country with a population of more than five million.

Study population: people living in Khartoum State.

2.2. Sample Size

The minim sample size was calculated using the Cochran's formula:

$$n = \frac{Z^2PQ}{d^2}$$

n=sample size.

P= proportion of medical errors.

Q =1-P.

d = degree of precision which was taken at ±5%.

Z = standard deviation (1.96) in accordance with the confidence interval of 95%.

Since we have no exact data on proportion of medical errors in our country, we took P on .50 consequently Q (1-.50) it turns to equal .50.

$$n= (1.96)^2x0.5x0.5/(0.05)^2$$

$$n = \frac{1.96^2x.5x.5}{d.05^2} = 384$$

so, we got a sample size of 384.

2.3. Sampling

We took the participants from all cities of Khartoum State i.e. from Khartoum, Khartoum North and Omdurman. In proportion to the convergence of the population, the number of hospitals and doctors working in the three Khartoum cities, we took an equal number from each city.

2.4. Method of Data Collection

Data was collected by an in-person interview using a structured questionnaire. The interview was done with the victims themselves or with a close relative in the case of deceased ones.

2.5. Data Analysis

The data was analyzed using statistical package for social sciences program 19 (SPSS). Frequencies and proportions were calculated. Recurrent theme was done for categorical data.

2.6. Ethical Consideration

The study has minimal risk as participants have to recall sad memories. To protect participants' privacy, data was collected from participants in places and their private time. Confidentiality was maintained by keeping information on a password protected computer and no one had access to it, except the research team. The ethical review and approval was obtained from the Research Ethics Committee at Alzaiem Alazhari University.

The objective and outcomes of the research were explained to the participants in a simple, understandable language and comprehensive manner prior to commencement of the study. Verbal informed consent was obtained from each individual participant. They were told that they have the right to withdraw from the study at any time. Participants were informed that the study would be published in scientific journals in the field of medicine.

3. Results

The sample size was calculated to be 384, but 382 participants responded to filling in the questionnaire with a response rate of 99.5%. Males are 153 (40%) while females are counted 229 (60%). The participants whose age was younger than 19 years were 39, constituted 10.2%, participants from 19 to 40 years were 256 (67%), while those who were older than 40 years of age were 87 (22.8%).

The education levels of participants ranged from non-formal education to college graduates (see table 1).

We asked the participants have they ever exposed to medical error. Seventy-six (19.9%) of them admitted that

they were exposed to medical error. While 306 (80.1%) have not been exposed to any type of medical error. Further, the study revealed the types of medical errors. For details (see table 2).

The 76 participants who claimed that they had encountered a medical error admitted that the error was committed by Sudanese physicians and they were in Sudan in different health facilities. (see table 3).

Regarding the effect of the medical errors on participants' health, they responded differently. Fifteen of the participants (19.7%) claimed that the error was simple and had no effect on their health, 40 (52.6%) had minimal effects, 12 (15.8%) admitted that the errors caused them disability, while death, according to relatives, occurred in 9 (11.8%).

Out of the 76 participants who were subjected to errors, 46 (60.5%) were notified by another doctor of the medical error, 12 (15.8%) discovered the error by themselves when they felt that they were not well. While 11 (14.5%) admitted that the error was discovered by their family or other relatives. The study revealed that 7 (9.2%) of the participants were told by their doctors who committed the error. They admitted that none of them received an apology from the doctors nor the hospital.

The study revealed that victims reacted differently to the occurrence of the errors. Looking at table 4, it is clear that four affected persons filed complaints against the doctors who caused the harm. Two of them resorted to the judiciary and one filed a complaint to the Sudanese Medical Council, while the latter submitted his complaint to the hospital administration.

Table 1. *The level of education of the participants.*

Level of education	Frequency	Proportion
Non-formal education	11	2.9
Elementary	34	8.9
High school	81	21.2
Collage	250	65.4
Other forms of education	6	1.6
Total	382	100.0

Table 2. *Types of medical errors encountered by the participants.*

Type of error	Frequency	Proportion
Therapeutic	39	51.3
Diagnostic	25	32.9
Surgical	12	15.8
Total	76	100.0

Table 3. *Type of health facility where the incident of error was occurred.*

Type of health facility	Frequency	Proportion
Governmental hospital	39	51.3
Governmental PHC	6	7.9
Private hospital	16	21.1
Private PHC	8	10.5
Private clinic	7	9.2
Total	76	100.0

Table 4. *Response of the responders to the error.*

Responses of the victims	Frequency	Percent
Talked to a friend or family	43	56.6
Did nothing	21	27.6
Filed the case	4	5.2
Field a case in court	2	2.6
Talked to myself	2	2.6
Hit the doctor	2	2.6
Published in the newspapers	1	1.3
Posted to social media	1	1.3
Total	76	

Response of participants about how they felt about the incidences of medical error (qualitative part of the results):

1) I felt sad and angry when I discovered the incident and disappointed, shocked and fearful. I just did not know what to do?!
2) I didn't take action against the involved physician or facility. I thought that the results were not guaranteed.
3) I did not know that I had legal rights to raise a file against the doctor or the hospital.
4) I know that I have legal rights to file the doctor for his mistaken procedures against me, but I think the procedures to pursue legal rights were difficult and might take a long time and a lot of money.
5) The involved doctor was a relative of mine, so I was not able to scarify our social relationship and did not want to affect his reputation and his future.
6) I don't believe in systems. I knew in advance that I would gain nothing, but wasting time and resources. Would.
7) I think that the first thing a doctor should do when committing an error is to apologies and correct the error, then discuss it with me. Since he didn't do so, I just left him for his consciousness.
8) I raised a file against the doctor. I simply pursued my legal rights. I believe that it is my duty to discover malpractice in the health system.

4. Discussion

Our study tackled both the occurrence of medical errors and the response of victims exposed to them. However, we focused on the responses of victims. The study revealed that one out of each five patients seen by doctors has encountered a medical error at least once in his life. Although it is a relatively small proportion, it is a warning. Other studies suggest varying rates of medical errors, which we believe arises from the different approaches and methodologies to estimating these rates, and therefore, more standardized studies are needed to judge the exact rate of medical errors [9]. Scholars must put in account what are considered errors by both the health care provider and the patient and his relatives as well. Also, our study looks at the occurrence of medical errors irrespective of the outcome of the error, either death or other outcome, and we believe that this topic needs to be investigated at various levels; medical records level, government registry level and victims level, in order to

properly determine the proportion of medical errors and study the contributing factors.

Our study found that the most common type of medical error is therapeutic (medications) in nature. This finding consists of a study done by Sutherland et al. Most of the available literature suggests incorrect prescriptions or inappropriate medication. [10]

The response of patients to medical errors varies from personal or verbal complaints to filing complaints against doctors to the National Regulatory Body. Some tend to raise a lawsuit and claim compensation, reparation, accountability and/or retribution on patients and their families. Where some rulings are issued against the involved doctors [6].

The literature was deficient in studies related to how victims respond to medical error. However, a study in the USA found that victims when they realize that they encounter a medical error expect to be notified by the doctor himself. Yet, the majority of the study participants discovered the error and its consequences by other means. Nondisclosure of medical errors by doctors increased the likelihood of changing physicians, and reduced satisfaction and trust in both error conditions and the treating doctor. Nondisclosure increased the likelihood of seeking legal advice and was associated with a more negative emotional response, but did not have a statistically significant impact on seeking legal advice or emotional response in the monitoring error condition. Neither the existence of a positive relationship nor an offer to waive costs had a statistically significant impact [11]. Patients and their families tend to consider the emotional approach to dealing with medical errors and that disclosure often helps to resolve the conflict with words, and most patients and their families never opt for the legal approach.

Regarding the feelings, we noticed that error disclosure is still an undermining issue, i.e. doctors tend not to disclose the committed error to patients or their families. Most of the incidents are found by other health care providers. Which is consistent with the literature [12]. We think more work among physicians is needed to insure safe practice and insure that patients have the right to know about errors if they occur in their bodies and this right shouldn't be violated [13]. Although the literature was also deficient in studies related to how victims responded to medical error, we found a great diversity of how patients and their families respond to medical errors and that their feelings ranged from anger to disappointment and fear. We see that families and patients value confessions and apologies and that helps resolve those negative feelings towards doctors and health facilities.

Although nearly all victims are emotionally affected by the error, their feelings range from anger and sadness to the thought that they have been betrayed by the doctor who they trust. This study revealed that only four victims pursued legal rights. We find that two of them did not have a final closure to their case, which highlights the issue of justice regarding medical errors.

Most of the victims didn't file a case against a doctor, and they just talk to themselves or their families to find support and, most, to warn them from seeking medical advice from the same doctor with, whom they have experienced an error.

An increasing number of victims publish their files in daily newspapers or on social media platforms. It is not uncommon to find articles about patients' problems in daily newspapers and on social media. It is a way of expressing the anger of those who have been victimized by medical errors. In addition, it is a way of expressing their deteriorating mental health that was caused by the errors. Furthermore, it is considered defamation of the doctors and hospitals where they work. It is possible that the defamation will negatively impact their career and reputation. Doctors are also victims whose dignity and humanity must be preserved. The most appropriate procedure when an error occurs is to file a complaint either with the Sudanese Medical Council or with the judiciary. It is a civilized way to resolve conflicts and preserve rights. It is also imperative to consider the use of the press and social media as an opportunity for improvement of physician-patient relationships, rather than as an attack on doctors' practice [14].

When exploring the reasons that influenced the decision of some patients not to pursue their legal rights, the majority find it either a difficult procedure or it takes a long time with no actual result, so they chose not to pursue legal rights. While others had a relationship with the doctor who committed the error as a relative, friend or being a family doctor. Others already didn't know about this procedure or that the doctor could be punished.

Approximately all the victims consider that the right action from the doctor is to apologize truly and to correct the error. This consists with Thomas H, et al in their study where they emphasize that physician should strive to meet patients' desire for an apology and for information on the nature, cause and prevention of error [15, 16].

A study conducted in Wisconsin in the USA assessed what would happen if people faced what could turn into a legal problem. They divided the response into three steps. The first step in the pictorial process. Does a person think from a legal perspective? Some do. The researchers call it "the Naming." The next step is to transform this concept into a sense of sadness and grumbling "Blaming". Any blaming someone could be responsible for the event. The final step is to "transform" from blame to taking action demanding compensation or treatment. The majority of those affected stop at the steps of naming and blaming, and a few of them move to the step of transformation and sue those they believe that they caused the harm. These responses range from being silent and talking with someone close to writing in newspapers and social media to suing the doctor in charge. Responses come in the form of a pyramid, at the base of which are all affected people. Usually the base is wide and narrows as we rise to the top until we reach a very small number of those affected who raise a lawsuit or submit their complaints to the Sudanese Medical Council [17, 18].

5. Conclusions

Based on the findings of this study we can conclude that data is still insufficient to quantify medical errors and better understanding the nature of this problem in Sudan. Although, the proportion of medical errors is considerable, but victims don't use they right to sue the doctor who is responsible for the error.

We believe that those affected have the right to sue the doctors or the hospital administration as normal response regardless to the effect of the error. They are also entitled to an appropriate compensation according to the extent of the harm, or at least an apology from the concerned doctor or the hospital administration. Resorting to the judiciary or hospital administration as first party to clarify the facts and apologize may ease the psychological status of the victims and may reduce to some extent the occurrence of these errors in the future. At the same time, we believe that reducing medical errors can be achieved through improving the health system and continuous training of medical workers to avoid errors and reduce the suffering of patients.

This problem requires attention from the doctors and health institutions and the health system as well. Also more research studies are needed to fill the gap in understanding the nature of the physician-patient relationships and to contribute to informing people of their rights to receive medical services free of errors.

Conflict of Interest

Authors claim that there is no conflict of interest.

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