

Barriers to reporting errors among physicians and nurses in Pediatric Hospitals in Gaza City

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ABSTRACT:

Background: Collecting data on medical errors is essential for improving patient safety, but a lot of factors affecting error reporting by physicians and nurses. These factors may be individual or institutional in the health care system and sometimes mandatory. The barriers preventing doctors and nurses in pediatric hospitals from reporting medical errors are poorly understood. The objective of the study was to identify the factors affecting medical error reporting by physicians and nurses among pediatric hospitals in Gaza Governorate, Gaza Strip.

Methods: The study design was a cross-sectional study using a questionnaire. A total of 86 doctors and nurses were selected by the purposive sample in pediatric hospitals in Gaza Governorate (Al Nasr, Al Durra & Al Rantisi hospitals). Data analysis performed using Statistical Package for the Social Sciences software version 23, and a p-value less than 0.05 was statistically significant.

Results: The factors affecting medical error reporting by physicians and nurses were organizational barriers (59.2%), barriers due to fear (72.4%), cultural barriers (73.1%), respectively. The First causes preventing medical error reporting by physicians and nurses were staff worry (76.9%) followed by fear of lawsuits (legal and financial penalties) (75.3%), the fear of questioning competence (74.2%), work pressures (68.6%) and finally insufficient staff number (67.9%).

Conclusion and recommendations: elevated work pressures and insufficient staff number with staff worry from lawsuits lead to medical error not reporting among pediatric hospitals in Gaza Governorate. Change the culture and knowledge about medical error reporting will support doctors and nurses to reporting the medical error and avoid repeated again by focusing on safety rather than productivity during clinical work essential for improving patient safety

Keywords: Medical error reporting, physicians and nurses, pediatric hospitals, Gaza Governorate

1.1 Introduction

Medical's errors may occur in each step of the healthcare process and cause serious complications. These errors threaten the health and welfare of patients, and the repetition of these problems changes the quality of provided healthcare (1). A broad survey of studies from developed and developing countries concluded that up to 17% of all hospitalizations are affected by one or more adverse events, with 30-70% of these being preventable (2). Also, patient safety events are costing countries trillions of dollars across the world. Given that a high proportion of these incidents are preventable (3).

Reporting the errors have been found as an effective strategy to reduce the reoccurrence of errors (4). The aim of reporting errors is to gather all the required information on patient safety events reported by healthcare professionals as well as to enable health care organizations to use this information to understand

system errors and create changes to reduce the likelihood of the reoccurrence of the error(5), the success of reporting error depends on the quality of the feedback given to reporters to enable learning, encourage reporting and provide reporters with evidence that the information they are providing is being utilized appropriately (6).

Although reporting errors in clinical practice is critical to enhance patient safety and improve the quality of care, there are barriers prevent health care provider from reporting their errors such as fear of blame, the perception that incident reporting does not improve patient safety, lack of organizational support, inadequate feedback, lack of knowledge about incident reporting systems, and lack of knowledge about what constitutes an error. In other cases, the reporting form was too time-consuming to complete or the incident was too trivial to report (7).

In Gaza pediatric hospitals Despite the continuous efforts to reduce medical errors in pediatric hospitals, the development of treatment protocols, the formation of mortality and morbidity committees, and the implementation of the patient safety initiative in a hospital but still lacks a system for Incident reporting system, Reporting incidents focused on clinical practice rather than focusing on system problem and processes, and healthcare providers do not adopt a clear and standardized documentation policy for reporting incidents .

Population and methods

2.1 Study design

The cross-sectional study was conducted in this study to explore barriers to reporting errors among physicians and nurses in pediatric hospitals in Gaza city.

2.2 Setting and period

The study was carried at the pediatric hospitals in Gaza city in Gaza city(El Naser, El Durra, El Rantisi),the study was conducted throughout of four consecutive months; from April/2019 to August 2019 .

2.3 Study population

The study was targeted clinical staff, which work in pediatric hospitals(El Naser, El Durra, El Rantisi) including physicians, nurses from several departments. Purposive sampling was used in the selection process of participants.

2.4 Sampling and sample size

Purposive sampling was used in the selection process of participants. The sample size was 90 subject, from the 90 surveys were distributed in three pediatric hospitals, 86 were returned. Therefore, the overall response rate was 95.5%. This good positive response was achieved due to the working staff's realization of the importance of this issue.

2.5 Data collection tool

The study instrument was designed by the researcher by utilizing similar tools and used by earlier studies. The first part was about the characteristics of the participants e.g. age, gender, position, job, educational level, work area/ unit, experience years in the hospital and experience years in the unit. The second part consists of two sections which include two closed-ended items to measure the availability of incident reporting system in pediatric hospitals and the number of events reported. The third part consists of one section that includes 19 items which are scored on a five-point Likert scale to measure perceived barriers to events reporting. Five response cells indicate the extent of agreement (Strongly disagree, disagree, neither, agree, and strongly agree).

2.6 Ethical considerations

- The researcher was committed to all ethical consideration required to conduct research.
- Administrative approval was obtained from the Human Resources Development General Directorate in the MOH for conducting this study at the pediatric hospitals in Gaza city.
- To guarantee the participants rights, a covering letter indicating that the participation was voluntary, the confidentiality was secured for all, and the roughly time needed to accomplish the questionnaire.

2.7 Data entry and statistical analysis

Data analysis was conducted using Statistical Package for Social Sciences (SPSS23) for statistical analysis, the data was gathered and then the instruments reviewed, appropriate entry method, data cleaning then doing frequency tables for study variables, percentages and using one sample t-test and ANOVA test.

3. Results

The distribution of participants according to their sex groups, about two thirds 52 (60.5%) of the participants are males while 34 (39.5%) are females. the distribution of the participants according to their age was 25 (29.1%) for participants less than 30 years, while 24 (27.9%) for the participants between 30-39 years, 28 (32.6%) for the participants between 40 to 49 years, and 9 (10.4%) for the participants between 50 or more years. Regarding educational degree, about half of participants were had bachelor certificate 47 (54.7%), while 24 (27.9%) were with a master degree or more and 15 (17.4%) were with a diploma degree. The distribution of the participants according to their place work was 29 (33.7%), 29 (33.7%), 28 (32.6%) in Al –Durra, Al-Nasr, Al -Rantisi, respectively. The distribution of participants according to their job 36 (41.9%) doctors and 50 (58.1%) nurses. Moreover, the distribution of participants according to their department was 45 (52.3%), 5 (5.8%), 26 (30.2%), 10 (11.7%), Pediatric, Emergency department, ICU Others, respectively. The experience of work in hospital was 34 (29.1%) for years between (1-5), while 22 (18.8%) for years between (6-10), 14(16.3%) for years between (11-15), 8 (9.3%) for years between (16-20), and 8 (9.3%) for 21 or more. On the other hand, the experience in the department was five years or less were 45 (52.3%),16 (18.6%) for years between (6-10), 14 (16.3%) for years between (11-15), 5 (5.8%) for years between (16-20), and 6 (7.0%) for 21 or more.

Regarding Availability of incident reporting about one third of participants32(37.2%) agree that there are Approved and implemented incident reporting, 16 (18.6%) agree that there are Approved and not implemented incident reporting, 27 (31.4%) agree that there is no incident reporting, 11 (12.8%) don't know about incident reporting.

Moreover, 68.6% of staffs had no error reporting over 12 previous months and only 31.4% of them mentioned that errors were reported.

Table 1: Distribution of the participants according to their socio-demographic information

Socio-demographic information		N	%
Age	Less than 30	25	29.1
	30 to 39	24	27.9
	40 to 49	28	32.6
	50 or more	9	10.4
Sex	Male	52	60.5
	Female	34	39.5

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Socio-demographic information		N	%
Educational Level	Diploma	15	17.4
	Bachelor's	47	54.7
	Master or more	24	27.9
Workplace	Al -Durra	29	33.7
	Al-Nasr	29	33.7
	Al -Rantisi	28	32.6
Job	doctor	36	41.9
	nurse	50	58.1
department	Pediatric	45	52.3
	Emergency department	5	5.8
	ICU	26	30.2
	Other, specify	10	11.7
Work in hospital (years)	1 to 5	24	27.9
	6 to 10	19	22.1
	11 to 15	27	31.4
	16 to 20	8	9.3
	21 or more	8	9.3
Work in department (years)	1 to 5	45	52.3
	6 to 10	16	18.6
	11 to 15	14	16.3
	16 to 20	5	5.8
	21 or more	6	7.0
Availability of incident reporting	Approved and implemented	32	37.2
	Approved and not implemented	16	18.6
	There is no incident reporting	27	31.4
	I do not know	11	12.8
Frequency of Events Reported	No event report	59	68.6
	1-2 event report	17	19.8
	3-5 event report	7	8.1
	6-10 event report	2	2.3
	More than 10 event	1	1.2
Total		86	100.0

Distribution of the study participants according to their responses about organizational barriers by using one-sample t-test table (2) shows that the weighted mean for the topic of the field of organizational barriers was 59.2 % and significant more than 0.05 which mean the participants agree about this topic. According to the results the highest paragraphs was number (5) " Reporting incident is not part of my job. " with weighted mean 50.7% followed by paragraph number(4)"Lack of knowledge about error." with weighted mean50.9% While the lowest paragraph was number (7)" Work pressures lead to a lack of interest in documenting medical errors " with weighted mean68.6 % followed by paragraph number(9)" Lack of sufficient staff leads to focus on clinical work without attention to documentation of medical errors " with weighted mean67.9% and significance less than 0.05. According to the result of this topic, the participant agrees and had a positive result about this topic.

Table 2: Distribution of the study participants according to their responses about organizational barriers

	Organizational barriers	Mean	SD	%	t	P-value	rank
1	No System enforces the physicians and nurses to report the adverse events and medical error.	3.3	1.3	65.6	2.0	0.045	7
2	There is no clear definition of error that may occur at this hospital	3.2	1.2	64.0	1.5	0.135	6
3	Hospital management refused to document medical errors by doctors and nursing	2.6	1.2	52.1	-3.2	0.002	3
4	Lack of knowledge about error.	2.5	1.1	50.9	-3.7	0.000	2
5	Reporting incident is not part of my job.	2.5	0.9	50.7	-4.6	0.000	1
6	Reporting take long time to complete.	2.7	1.0	53.9	-3.0	0.004	4
7	Work pressures lead to a lack of interest in documenting medical errors	3.4	1.0	68.6	3.9	0.000	9
8	No perceived benefits of reporting incidents (learning from error).	3.0	1.1	59.1	-0.4	0.705	5
9	Lack of sufficient staff leads to focus on clinical work without attention to documentation of medical errors	3.4	1.2	67.9	3.0	0.004	8
	Total	3.0	0.6	59.2	-0.6	0.544	

Distribution of the study participants according to their responses about cultural barriers By using one-sample t-test table (3) shows that the weighted mean for the topic of the field of cultural barriers was 73.1 % and significantly less than 0.05 which mean the participants not agree about this topic. According to the results the highest paragraphs was number (3) " Reporting is a method through which to pinpoint blame " with weighted mean 68,4 % While the lowest paragraph was number (2)"Staff worry that mistakes they make are kept in their personnel file." with weighted mean76.9% According to the result of this topic, the participant agrees and had a negative result about this topic.

Table 3: Distribution of the study participants according to their responses about cultural barriers

	cultural barriers	Mean	SD	%	t	P-value	rank
1	Staff feels like their mistakes are held against them.	3.7	1.1	74.0	6.0	0.000	2
2	Staff worry that mistakes they make are kept in their personal file.	3.8	.9	76.9	8.3	0.000	3
3	Reporting is a method through	3.4	1.1	68.4	3.6	0.001	1

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cultural barriers	Mean	SD	%	t	P-value	rank
which to pin point blame						
Total	3.7	.9	73.1	6.8	0.000	

Distribution of the study participants according to their responses about barriers due to fear By using one-sample t-test table (4) shows that the weighted mean for the topic of the field of barriers due to fear was 72.4% and significantly less than 0.05 which mean the participants not agree about this topic. According to the results the highest paragraphs was number (4) " Fear of loss respect of colleagues. " with weighted mean 68.6%, followed by paragraph number(5)"Fear of loss reputation." with weighted mean 69.8% While the lowest paragraph was number (2)"Fear of lawsuits(legal and financial penalties)" with weighted mean75.3% followed by paragraph number(3)" Fear that own competence may be questioned." with weighted mean74.2 %According to the result of this topic, the participant agree and had a negative result about this topic.

Table 4: Distribution of the study participants according to their responses about barriers due to fear

barriers due to fear	Mean	SD	%	t	P-value	rank
1 Fear of administrative sanctions (loss of job, transfer, prevent promotion).	3.6	1.1	72.8	5.6	0.000	3
2 Fear of lawsuits(legal and financial penalties)	3.8	1.1	75.3	6.3	0.000	7
3 Fear that own competence may be questioned.	3.7	1.1	74.2	6.1	0.000	6
4 Fear of loss respect of colleagues.	3.4	1.1	68.6	3.6	0.000	1
5 Fear of loss reputation.	3.5	1.2	69.8	3.9	0.000	2
6 Fear of revenge of patients or their families.	3.7	1.1	73.3	5.6	0.000	5
7 Fear of press and the issue become public.	3.6	1.1	72.8	5.4	0.000	3
Total	3.6	0.9	72.4	6.3	0.000	

Table 5 shows that there are no statistical differences between topics as a total (organizational barriers, cultural barriers, barriers due to fear) and socio demographic variables (sex, job, education, age, workplace, department, experience) (P > 0.05).

Table 5: Differences between Topics (organizational barriers, cultural barriers, barriers due to fear) and socio demographic variables

Domains	socio demographic	N	Mean	SD	%	t	F	p-value
total	Male	52	3.5	0.6	70.2	1.7		0.093
	Female	34	3.3	0.7	65.2			
Job	Doctor	36	3.5	0.7	69.1	0.5		0.614
	Nurse	50	3.4	0.7	67.6			
Education	Diploma	15	3.2	0.6	63.2	1.3		0.284

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Domains	socio demographic	N	Mean	SD	%	t	F	p-value
	Bachelor's	47	3.5	0.7	69.2			
	Master or more	24	3.5	0.7	69.4			
Age (years)	Less than 30	25	3.3	0.8	66.3		0.6	0.637
	30 to 39	24	3.4	0.6	67.0			
	40 to 49	28	3.5	0.7	70.8			
	50 or more	9	3.4	0.3	68.9			
Workplace	Al -Durra	29	3.5	0.6	69.7		0.4	0.640
	Al-Nasr	29	3.3	0.7	66.4			
	Al -Rantisi	28	3.4	0.7	68.6			
Department	Pediatric	45	3.4	0.7	68.5		0.2	0.905
	Emergency department	5	3.5	0.3	70.0			
	Intensive care unit	26	3.4	0.6	68.5			
	Other, specify	10	3.3	0.7	65.3			
Experience (years)	1 to 5	24	3.3	0.7	65.4		1.2	0.328
	6 to 10	19	3.5	0.6	71.0			
	11 to 15	27	3.5	0.7	69.0			
	16 to 20	8	3.1	0.7	62.2			
	21 or more	8	3.7	0.6	73.3			

4. Discussion

The researcher conducted the study attempting to identify the barriers for reporting of the medical errors at the pediatric hospital in Gaza city. The sample of research consisted of 86 participants working in different pediatric hospitals, about one third of participants (37.2%) stated that they have Approved and implemented incident reporting while (18.6%) agree that there are Approved and not implemented incident reporting (31.4%) showed no incident reporting and 11 (12.8%) don't know about incident reporting. This means not all of the participants have knowledge about incident reporting system and there is no standardized incident report enforce nurses and doctors to report an adverse event. Moreover, 68.6 % of medical staffs had no error reporting over 12 previous months and only 31.4% of them mentioned that errors were reported. The researcher argues that results may be affected by the tendency of most of the participants not to report events and their preference to solve problems informally without filing an incident report.

Researcher divided barriers to three domain first domain related to organizational barriers second related to cultural barriers and the third related to barriers due to fear The factors affecting medical error reporting by physicians and nurses were organizational barriers (59.2%), barriers due to fear(72.4%), cultural barriers(73.1%), respectively. The First cause preventing medical error reporting by physicians and nurses were Staff worry that mistakes they make are kept in their personnel file. (76.9%) followed by fear of lawsuits (legal and financial penalties) (75.3%) this result agrees with the results of (Peyrovi, et al.,

2016),(8) the fear of questioning competence (74.2%), work pressures(68.6%) this result agrees with the results of (Banakhar, et al.,2017),(9) and finally insufficient staff number(67.9%).

There was no age significant differences these results do not agree with the results of Alduais et al., (2014),(10) who displayed that statistical differences between topics as a total and age. There were also no significant differences between types of hospitals, job, types of department, and years of experience regarding barriers ,However, there are no statistical differences between topics as (organizational barriers, cultural barriers) and education level ($P > 0.05$), while there are statistical differences between topic as (barriers due to fear)and education level. ($P < 0.05$), there are no statistical differences between topics as (organizational barriers, cultural barriers) and gender ($P > 0.05$), while there are statistical differences between topic as (barriers due to fear) and gender ($P < 0.05$).

The study was conducted by(Rashed, Hamdan.2015),(11) Physicians' and Nurses' Perceptions of and Attitudes Toward Incident Reporting in Palestinian Hospitals. This study has a similar result, there was a low level of event reporting among participants in the past year (40.3%). Perceived main barriers for reporting were grouped under a lack of proper structure for reporting, the prevalence of blame, and punitive environment. The clinicians indicated fear of administrative sanctions, social and legal liability, and of their competence being questioned ($P > 0.05$).

(Alatari, et al., 2015),(12) conduct a study about Perceptions of reporting practices and barriers to reporting incidents among registered nurses and physicians in accredited and non-accredited Jordanian hospitals, the result of the study has some difference, nurses were more aware of the incident reporting system than physicians. Physicians were less likely to report any incident on 50% or more of occasions. The major three barriers to reporting incidents were believing that there was no point in reporting near misses, lack of feedback and fear of disciplinary actions.

Similar results were also obtained from nurses, In a study conducted by (vrbnjak, et al.,2016),(13) to explore barriers to nurses' reporting of medication errors and near misses in hospital settings.

From 4038 identified records, 38 studies were included in the synthesis. Findings suggest that organizational barriers such as culture, the reporting system and management behavior in addition to personal and professional barriers such as fear, accountability, and characteristics of nurses are barriers to reporting medication errors.

Barriers to Medication Error Reporting from Nurses' Perspective, a study conducted in a Private Hospital in Iran(Sharif, et al),(14) Fear of legal involvements was found to be the most important cause of under-reporting, followed by fear of losing the job, and fear of the consequences of medication error. On the other hand, forgetting, time-consumption nature of recording errors, and inadequate knowledge about whether an error occurred were identified as the three factors with the lowest contribution to under-reporting. Some barriers in this study similar to barriers in the current study.

5. Conclusion

In conclusion, this study is the first in Gaza city to explore barriers to reporting errors among physicians and nurses in pediatric hospitals in Gaza city. Under-reporting of medical errors was common in this hospital, elevated work pressures and insufficient staff number with staff worry from lawsuits lead to medical error not reporting among pediatric hospitals in Gaza Governorate.

6. Recommendations

- Training for professionals on a disclosure error to facilitate learning from mistakes.
- Healthcare systems and organizations need a change from blaming their personnel for their errors and use the occurrence of some errors as an opportunity to learn from it and to improve the system and prevent harm to patients.
- Development of Incident report system which applied currently.

- training for all residents in what should be reported, how to report incidents, who should report, and how to analyze the reported errors.
- Simplification of reporting form to permit workers to fill it without taking a long time.
- Encouragement of Reporting near misses.
- Hospital administrations need to continuously communicate and give feedback about errors with their teams to improve nurses' and doctors' perception toward safety culture.
- There should be clear guidelines, policies, and procedures to determine if there is a deviation from standards.
- Training program about medical errors to enable manager and healthcare worker how to differentiate between several types of errors take place in the organization.
- Standardization of medical error definition in the organization.
- Reporting of medical errors should be anonymous to encourage the staff at first to report them.
- Development of mortality and morbidity committee and using patient safety tool (root cause analysis) to detect if failing due to human error or due to system failure.

7. References

- (1) Sharbafchi-Zadeh N, Karimi S, Molavi Taleghani Y, Vejdani M. Developing an Error Reporting System for Health Centers. *Patient Saf Qual Improv*. 2017; 5(4):606-615
- (2,3) Slawomirski, L., Aaraaen, A., & Klazinga, N. (2017). The Economics of Patient Safety: Strengthening a value-based approach to reducing patient harm at national level. *OECD*.
- (4,5) Banakhar MA, Tambosi AI, Asiri SA, Banjar YB, Essa YA (2017) Barriers of Reporting Errors among Nurses in a Tertiary Hospital. *Int J Nurs Clin Pract* 4:245. doi: <https://doi.org/10.15344/2394-4978/2017/245>
- Poorolajal, J., Rezaie, S., & Aghighi, N. (2015). Barriers to Medical Error Reporting. *International journal of preventive medicine*, 6, 97. doi:10.4103/2008-7802.166680
- (6) Stavropoulou, C., Doherty, C., & Tosey, P. (2015). How effective are incident-reporting systems for improving patient safety? A systematic literature review. *The Milbank Quarterly*, 93(4), 826-866.
- (7) Ontario Health Technology Assessment Series; Vol. 17: N 3, pp. 1–23, March 2017
- (8) Peyrovi, H., Nikbakht Nasrabadi, A., & Valiee, S. (2016). Exploration of the barriers of reporting nursing errors in intensive care units: A qualitative study. *Journal of the Intensive Care Society*, 17(3), 215–221. doi:10.1177/1751143716638370.
- (9) Banakhar MA, Tambosi AI, Asiri SA, Banjar YB, Essa YA (2017) Barriers of Reporting Errors among Nurses in a Tertiary Hospital. *Int J Nurs Clin Pract* 4: 245. doi: <https://doi.org/10.15344/2394-4978/2017/245>.
- (10) Alduais, A. M. S., Mogali, S., Al Shabrain, B., Al Enazi, A., & Al-awad, F. (2014). Barriers and strategies of reporting medical errors in public hospitals in Riyadh city: A survey-study. *IOSR Journal of Nursing and Health Science (IOSR-JNHS)*, 3(5), 72-85.
- (11) Anan Rashed, Motasem Hamdan. (2015). Physicians' and Nurses' Perceptions of and Attitudes Toward Incident Reporting in Palestinian Hospital. DOI:10.1097/pts.0000000000000218.
- (12) Abu AlRub RF, Al-Akour NA, Alatar NH (2015) Perceptions of reporting practices and barriers to reporting incidents among registered nurses and physicians in accredited and non accredited Jordanian hospitals. doi: 10.1111/jocn.12934. Epub 2015 Jul 27.
- (13) Vrbnjak D, Denieffe S, O'Gorman C, Pajnikihar M (2016). Barriers to reporting medication errors and near misses among nurses: A systematic review. doi:10.1016/j.ijnurstu.2016.08.019. Epub 2016 Sep 1.
- (14) Tabatabaee, S., Kalhor, R., Nejatizadegan, Z., Kohpeima Jahromi, V., Sharifi, T. (2014). Barriers to Medication Error Reporting from Nurses' Perspective: A Private Hospital Survey. *International Journal of Hospital Research*, 3(2), 97-102.

