



Head nurses knowledge and its effect on their practice regarding international patient safety goals

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Abstract

Background: Patient safety is one of the most prevalent healthcare concerns worldwide. For improving healthcare, it is vital to share the responsibility for patient safety amongst patients, healthcare practitioners and those researching the topic. Since patient safety is frequently seen as a component of quality, actions that increase patient safety also enhance the general standard of care.

Aim: To assess head nurses knowledge and its effect on their practice regarding international patient safety goals.

Design of the research: In this research used a descriptive correlational design.

Setting: The study was performed at Minia Liver University Hospital, Minia Urology and Renal University Hospital and Minia Emergency University Hospital.

Subjects: All head nurses available which constitute (50), who worked at Minia university hospitals during the time of data collection.

Tools: Two tools as follow; tool (I), first part was socio demographic data and second part was head nurses knowledge about international patient safety goals questionnaire. Tool (II) was head nurse practice related to international patient safety goals questionnaire

Results: A greatest percentage of head nurses had low level of knowledge related to international patient safety goals with (74.0%). Also, the greatest percentage of head nurses had low level of practice related to international patient safety goals with (84.0%).

Conclusion: There was moderate association between total head nurses knowledge and their practice regarding international patient safety goals.

Recommendation: Encourage ongoing training programs and development activities for all head nurses in the study environment about the worldwide patient safety goals and these programs should be expanded to other settings that are comparable.

Keywords: Goals, head nurses, knowledge, practice, patient safety

Introduction

In healthcare organizations, patient safety is a concern that involves minimizing and preventing medical errors that frequently have detrimental effects on health. Health care has grown more sophisticated and efficient, with a greater use of new treatments and technologies. As a result, it is necessary to adopt international patient safety goals to enhance safety of patients, mimic global competition, and boost healthcare organizations' competitive advantages at both the national and international levels (Ahmed, Mahmoud & Ali, 2022) ^[4].

Patient safety according to the World Health Organization, is "the lack of patient injury that might have been avoided while receiving medical care." Other definitions of patient safety include the absence of medical mistake or unintentional injury brought on by receiving medical care. Also the patient safety is the process of lowering the possibility of avoidable harm from medical treatment to a

manageable level. Damage resulting from or connected to plans or acts made when providing healthcare is known as "healthcare-associated harm," as opposed to damage resulting from an underlying illness or injury (Agbar *et al.*, 2023; Falcone, 2022) ^[3,9].

One of the biggest issues facing healthcare throughout the world is patient safety. It is critical that patients, healthcare professionals, and researchers all share accountability for patient safety in order to improve healthcare. Healthcare workers must control these risks while providing patients with an underlying illness or damage at a safe level by using their knowledge and expertise in complicated systems (Järvisalo *et al.*, 2024; Vanhaecht, *et al.*, 2022; Rangachari & Woods, 2020) ^[15, 26, 22].

The Hospital Accreditation Commission has approved patient safety goals as a requirement that must be followed by all hospitals. "Accurately identify patients, enhance good communication, enhance the safety of medications with

high alertness, guarantee correct-site -procedure's correct, and correct-patient an operation, decrease infections risk related to healthcare, and minimize the patient risks caused by falls" are among the six main international patient safety goals published by JCI, 2011 Joint Commission International (Agbar, *et al.*, 2023; Kalsoom, *et al.*, 2023) [3, 17].

Patient safety is becoming more and more important on a global scale, and nurses deal with a variety of difficulties on a daily basis when trying to give their patients safe treatment. Since patient safety is frequently seen as a component of quality, procedures that increase patient safety also raise the standard of care as a whole. It is the professional obligation and responsibility of nurses, both individually and collectively, to keep all patients safe (Quinn, *et al.*, 2021) [20].

In the nursing management structure, head nurses are at the top. They do daily tasks and collaborate closely with the staff nurses. They also have a hand in creating unit rules and doing some long-term planning. Their primary responsibilities are managing concerns pertaining to healthcare delivery, shortages in staff, and employee conduct to uphold and enhance the standard of care. They should carefully plan the safety actions in order to implement the safety policy. Moreover, head nurses need to be capable of creating, explaining, and implementing patient safety goals to all other nurses as well as healthcare professionals who work through direction (Albaalharith, & A'aqoulah, 2023; Abduh Saaid, Abdullah & Abo Elmagd, 2021; Seliem, Shazly & Mostafa, 2018) [5, 1, 23].

Significance of the research

The majority of patient care in hospital settings is given by nurses, who make up the biggest group of workers in the healthcare industry. The population is growing, and more importantly, the percentage of persons over 65 is rising, which is driving up demand for nursing and healthcare services. Additionally, there are fewer nurses available. Patient safety might suffer as a result of this scarcity. Improving head nurses' abilities to guide their teams toward implementing patient safety objectives might potentially mitigate this detrimental effect (Buerhaus, 2021; Gurková *et al.*, 2020) [7, 12].

Internationally, study done by Raghavendran, Bhattacharjeeb & Revathic (2021) [21] who found that, the health care providers had moderate level of knowledge related to patient safety while most of the study sample had inadequate practice. In Egypt, study done by Mady, El-Rafy & Tantawi, (2017) [18] who found that more than half of studied sample had poor knowledge and unsatisfactory practice related to the dimensional application of patient safety goals for children at hospital. Also, Elnady, Saad & Saad, (2023) [18] who revealed that, the head nurses had a satisfactory level of knowledge related to patient safety goals.

According to the researcher, as a leader in their unit, the head nurse has an additional duty to ensure patient safety in addition to that of individual nurses. In addition to managing the ward, the head nurses have an obligation to enhance patient safety. The organizational elements that improve patient safety are management and leadership. Conversely, due of inadequately planned jobs, procedures,

and processes as well as a lack of supervision, nurses do occasionally make mistakes. So, there is need to assess the head nurses knowledge and its effect on their practice regarding international patient safety goals.

Aim of the Study

The present study aimed to assess the head nurses knowledge and its effect on their practice regarding international patient safety goals.

Research questions

1. What is the level of head nurses knowledge regarding international patient safety goals?
2. What is the level of head nurses practice regarding international patient safety goals?
3. Is there correlation between head nurses knowledge and their practice regarding international patient safety goals?

Methodology

Research design

In the actual research used Descriptive correlational design research.

Setting

The research was performed at Minia Liver University Hospital, Minia Urology and Renal University Hospital also the Minia Emergency University Hospital.

Subjects

All head nurses available which constitute (50), who worked on the previous hospitals through the time of data gathering.

Hospital	No of Head nurse
Minia liver university hospital	15
Minia urology and renal university hospital	15
Minia emergency university hospital	20
Total	50

Tools gathering data

Data was gathered using the following two tools:

Tool I: Divided into two parts

Part 1: Socio-Demographic Data: It was utilized to gather data about head nurses' age, qualification, gender, residence, experience's years, hospital name as well as hospital department.

Part 2: Head nurses knowledge about international patient safety goals questionnaire

This designed by the researcher. It was utilize to assess head nurses' knowledge related to international patient safety goals.

- It contains of 22 items about international patient safety goals and was measured by using (True (1) & False (0) response).

The scoring system ranged from 0-22.

Low level of knowledge (0-7)

Moderate level of knowledge (8-15)

High level of knowledge (16- 22)

Tool II: Head nurse practice related to international patient safety goals questionnaire

This designed by Yuswardi *et al.*, (2015) [24]; Seliem, *et al.*, (2018) [23] and adjusted by the researcher. It was used to

measure head nurses' practice of patient safety goals. It consists of 67 items and was measured through 3 Likert scale points (Always (2), Sometimes (1), Never (0) response) and was divided into 6 dimensions.

Dimension	Items	Scoring System		
		Low	Moderate	High
Identify patient correctly	10	0-6	7-13	14-20
Improve effective communication	10	0-6	7-13	14-20
Maintain patient safety of high alert medication	12	0-7	8-16	17-24
Ensure correct procedure, correct site, and correct patient surgery	9	0-5	6-12	13-18
Reduce risk of health care associated infection	14	0-9	10-19	20-28
Reduce risk of patient harm result from fall	12	0-7	8-16	17-24

The total scoring system ranged from 0-134.

Low level of practice (0-44)

Moderate level of practice (45-89)

High level of practice (90-134)

Tools Validity as well as Reliability

Validity

The tools were examined for the content validity by a jury of 7 experts in the nursing administration field also done the important modifications. The jury committee made up of two professors as well as five assistant professors; as one professor, four assistant professor “Minia university”, one assistant professors “Benha university as well as ” one professors “Assuit university. The expert panel was requested to assess the tools' substance, coverage, clarity, phrasing, length, structure, and overall look.

Reliability

To ensure consistency, tools dependability were tested by test of Cronbach' alpha to decide the degree to which the tools items measured the same idea and were correlated with one another.

Items	Cranach alpha test
Total knowledge level	0.971
Total practice level	0.991

Pilot Study

Prior to beginning data collecting, a pilot study including ten percent (five) of the sample who were employed at Minia University Hospitals was conducted. This pilot research set out to determine how well the instruments worked in terms of clarity, comprehensiveness, accessibility, and application as well as how long it would take people to complete the questionnaire. The findings of the pilot research reflect that there was no need to modify the tools. Therefore, the research sample contained pilot study participants.

Ethical Consideration

- The Minia University Faculty of Nursing's Research Ethics Committee granted an official letter.
- Approval to begin the research was obtained from the Executive Director (CEO) of Minia University Hospitals and Chief Nursing Officer.
- Informed permission was acquired from consenting participants before to the performance of both the pilot study and the main study, following an explanation of the investigation's nature and objectives. The research

participant is free to decline participation or to leave the research at any moment, for any reason.

- Privacy of study participants has been taken into account when gathering data. Participants received guarantees that all of their data would be kept completely private. Anonymity was further made certain by giving every head nurse a number rather than a name in order to preserve their privacy.

Data collection procedure

- The Minia University Faculty of Nursing's Ethical Committee provided written clearance.
- The study's conduct was authorized by the dean of Minia University's nursing faculty.
- The Chief Nursing Officer as well as Executive Director (CEO) of Minia University Hospitals gave their approval for the research to be conducted.
- A comprehensive analysis of pertinent literature and theoretical understanding pertaining to many facets of the research, utilizing books, articles, online journals, research papers, and dissertations to develop and adapt the study instruments.
- The tools have been translated to Arabic.
- Then, testing the validity of the tools from the jury committee and necessary modification were done.
- After testing the validity of the tools, the research pilot was done and tools of the study were tested for reliability and stability of the internal consistency.
- Each individual who chose to participate was guaranteed secrecy and voluntary involvement by the researcher.
- Informed consents were obtained from the study head nurses.
- **Regarding assessment of head nurses knowledge:** The study questionnaires were distributed to the head nurses to assess their knowledge related to international patient safety goals, and the researcher was present for any explanation of the sheet items.
- **Regarding assessment of head nurses practice:** The questionnaires of the research were used by the researcher to assess head nurses practice related implementation of patient safety goals through using observation method, meeting with head nurses, as well as asking staff nurses about head nurses implementation of patient safety goals.
- Data were collected three days weekly, began from February 2023 to May 2023.

Statistical design

The SPSS (statistical program for the social sciences) version 28 was utilized to tabulate, analyze, and computerize the gathered data. The research's data were presented utilizing both descriptive as well as the inferential statistics. Also the numbers as well as percentages were utilize to convey the descriptive data. Moreover mean as well as standard deviation were used to display quantitative data.

Furthermore when comparing two elements, quantitative continuous data were compared using the T-test, additionally Mann-Whitney U test, and Wilcoxon test. To examine the relationship between two qualitative elements or find differences between two elements, the chi square as well as the Fisher exact test were used. A p-value of lower 0.05 was accepted as the significance criterion.

Results of the research

Table 1: Distribution of socio-demographic data among head nurses (N=50)

Socio-demographic data	(No= 50)	
	No.	%
Age / year		
25-< 30	17	34.0
30- < 35	19	38.0
35-40	14	28.0
Mean±SD	32.2±4.8	
Educational qualification		
BSc	50	100.0
Years of experience		
1- < 5	13	26.0
5-< 10	22	44.0
10- < 15	7	14.0
15-20	8	16.0
Mean±SD	8.0±5.2	
Hospital name		
Minia Urology &Renal University Hospital	15	30.0
Minia Liver University Hospital	15	30.0
Minia Emergency University Hospital	20	40.0
Hospital department		
Intensive Care Units	18	36.0
Emergency Departments	7	14.0
Operations Units	6	12.0
Inpatient Units	19	38.0
Previous workshop attendance about patient safety goals		
Yes	15	30.0
No	35	70.0

Table 1, Clarifies that mean age of head nurses is (32.2±4.8). Regarding their educational qualification, all head nurses are BSc degree in nursing. About hospital name, the highest percentage is for Minia emergency university hospital with (40%). Concerning hospital department, the highest percentage is for inpatient units

(38%). Regarding previous workshop attendance about PDCA & patient safety goals, above two third (70%) of head nurses didn't attend workshops. Moreover, the greatest percentage of head nurses has 5-10 years of experience at work.

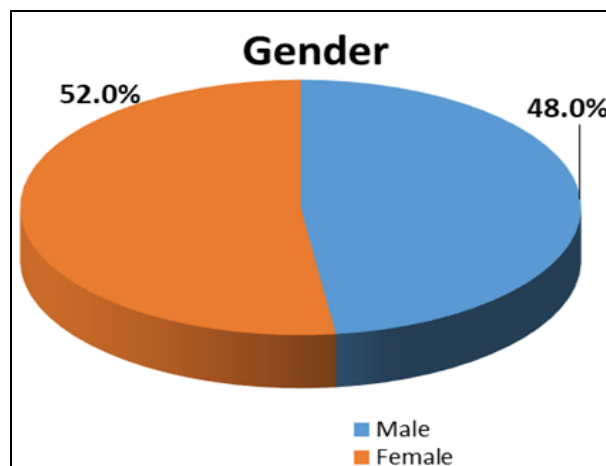


Fig 1: Distribution of the studied head nurses' gender (N=50)

Figure 1, Explains that, more than half of studied head nurses are female with (52%).

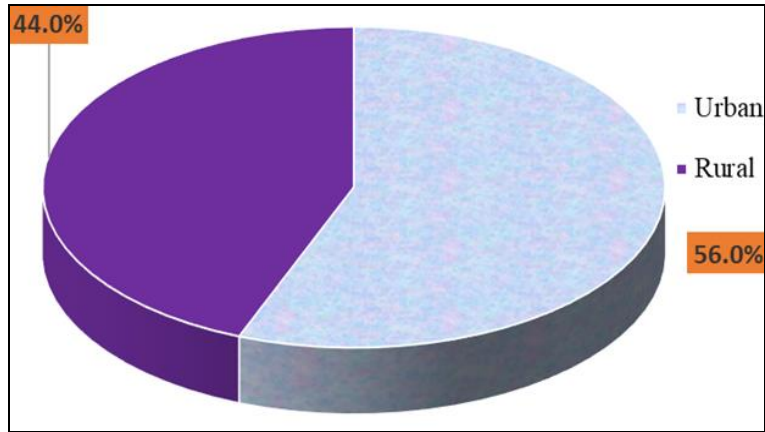


Fig 2: Distribution of the studied head nurses' Residence (N=50)

Figure 2 justifies that, the greatest percentage of studied head nurses is from urban area of residence with (56%).

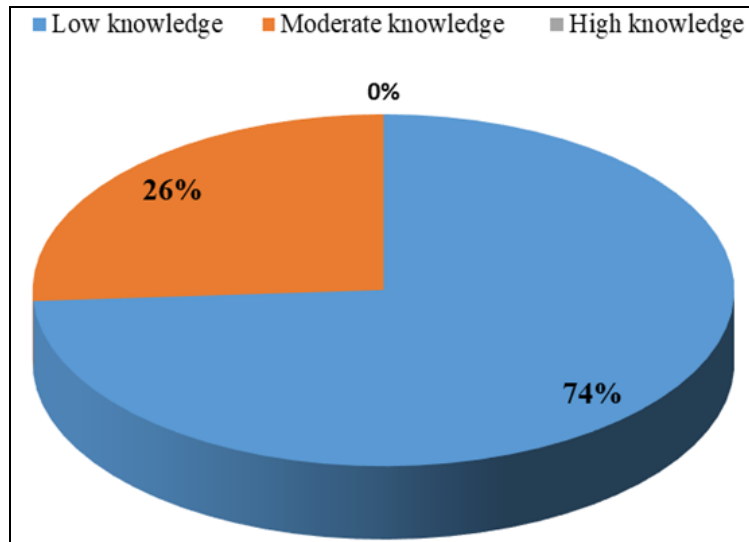


Fig 3: Total head nurses level of knowledge related to international patient safety goals

Figure 3 explains that head nurses have low level of knowledge related international patient safety goals with (74%).

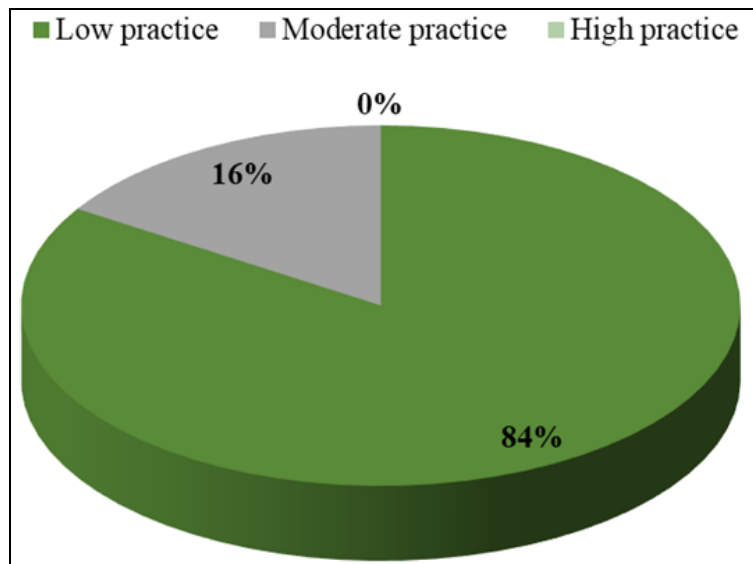


Fig 4: Total head nurses level of practice related to international patient safety goals

Figure 4 shows that head nurses have low level of practice related international patient safety goals with (84%).

Table 2: Correlation matrix between total head nurses’ knowledge and their practice regarding international patient safety goals (N=50)

		Total Knowledge about patient Safety goals	Total I Practice	Total II Practice	Total III Practice	Total IV Practice	Total V Practice	Total VI Practice
Total of dimension I of practice	R	0.284*						
	P-Value	0.046*						
Total of dimension II of practice	R	0.070-	0.219					
	P-Value	0.629	0.126					
Total of dimension III of practice	R	0.143	0.313*	0.112				
	P-Value	0.322	0.027	0.437				
Total of dimension IV of practice	R	0.256	0.116	0.195	0.116			
	P-Value	0.073	0.424	0.174	0.424			
Total of dimension V of practice	R	0.072	0.099	0.067	0.411	0.359		
	P-Value	0.619	0.493	0.642	0.003**	0.010*		
Total of dimension VI of practice	R	0.076-	0.075	0.093	0.136	0.161	0.523	
	P-Value	0.599	0.603	0.520	0.345	0.263	0.0001**	
Total level of Practice	R	0.719	0.523	0.536	0.593	0.524	0.719	0.557
	P-Value	0.0001**	0.0001**	0.0001**	0.0001**	0.0001**	0.0001**	0.0001**

*Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level

Table 2 shows association between total level of practice with all domains of practice as (r = 0.523, 0.536, 0.593, 0.524, 0.719, 0.557 respectively). Moreover, there is moderate association between total head nurses knowledge and their practice regarding international patient safety goals as (r = 0.719).

Discussion

One essential element of high-quality healthcare is patient safety. It's a worldwide task requiring expertise in several fields, such as systems engineering and human aspects. The use of patient safety principles is crucial to the ongoing improvement of the quality of healthcare. It is the responsibility of the health leader to prioritize patient safety and make a major effort to prevent unfavorable outcomes (Goenka, *et al.*, 2024; Oweidat, *et al.*, 2023; Bassuni, *et al.*, 2021) [11, 19, 6]. In order to reduce risks and mistakes, head nurses play a crucial role in comprehending and putting the six worldwide patient safety goals into practice. The objectives identify the troublesome areas in healthcare and outline the consensus-building evidence- and expert-based solution to these issues (Elnady, Saad & Saad, 2023) [8].

The aim of current study was to investigate the head nurses knowledge and its effect on their practice regarding international patient safety goals

Regarding socio demographic data of studied group

It was found that the head nurses under study had an average age of (32.2±4.8). Regarding their educational qualifications, all head nurses had a BSc degree in nursing. Concerning hospital departments, the highest percentage was for inpatient units. About hospital name, the highest percentage was for Minia emergency university hospital. Regarding previous workshop attendance about patient safety goals, about seventy five of head nurses didn't attend workshops. Moreover, the greatest percentage of head nurses had 5-10 years of experience at work. Also, more above half of them were female. Moreover, the greatest percentage of them were from urban areas of residence.

These results were agreed with (Abduh Saaid, Abdullah, & Abo Elmagd, 2021) [1] who conducted the study discovered that head nurses were mostly women. On the other hand, the

majority of them held a bachelor's nursing degree, with over two-thirds falling between the 25-35 age group.

Also, Hanifi *et al.*, (2018) [13] they claimed that the majority of the experimental groups' age ranges were between twenty five and thirty five years old, and that all of the tested groups were female. Moreover, Abousallah, (2018) [2], who disclosed that the most of the study's participants were female, under 35, most held a bachelor's nursing degree, and had between six and ten years of professional experience.

Concerning head nurses’ knowledge about international patient safety goals:

The actual research indicated that; head nurses knew very little about the global patient safety objectives. The investigator believes that a lack of ongoing education regarding patient safety goals at the hospital may be the cause of the low level of awareness among head nurses. Furthermore, there is a decrease in the enforcement of hospital policies pertaining to the execution of patient safety objectives. Hence, in order to raise the level of understanding among healthcare professionals, accelerate patient recovery, and reduce problems, it is essential that all healthcare facilities offer ongoing education about patient safety goals.

This result was congruent with Bassuni *et al.*, (2021) [6], who disclosed that prior to program implementation, all head nurses' awareness of the worldwide patient safety goals was inadequate. Also, this result was supported by (Seliem, Shazly & Mostafa, 2018) [23] they said that there was a lack of understanding among head nurses about global patient safety objectives.

While, the result was incongruent with Joshi, & Saini, (2022) [16] they revealed that the health care providers had a good awareness level towards patient safety goals.

Regarding studied head nurses’ practice related international patient safety goals

The actual study's findings showed that the majority of head nurses practiced at a poor level in relation to worldwide patient safety standards. From the perspective of the researcher, this might be because head nurses are not as knowledgeable about international patient safety goals. It might also be the result of a lack of worldwide patient safety

goal-related policies being implemented in healthcare settings.

These findings were consistent with Seliem *et al.*, (2019) [24] who discovered that head nurses' practices fell short of the international patient safety goals. Also, this agreed with Gani, *et al.*, (2023) [10], they discovered that almost two thirds of health professionals in Indonesia do not comply with patient safety regulations and do not adequately apply them.

While, this result was disagreed by Huang *et al.*, (2022) [14] who discovered that 96.11% of respondents on average gave a positive answer to the poll about the use of patient safety goals in practice. Also, this was inconsistent with Elnady *et al.*, (2023) [8], they elucidated the consensus among the majority of the head nurses under study on the implementation of patient safety goals.

Regarding the correlation between total head nurses' knowledge and their practice related international patient safety goals

The result of actual research showed that there was a moderate association between total head nurses' knowledge and their practice related international patient safety goals.

This result was supported by Seliem *et al.*, (2019) [24], they discovered that head nurses' awareness of and adherence to international patient safety goals had a statistically significant moderate positive connection ($r = 0.577$). Also, this was congruent with Raghavendran *et al.*, (2021) [21], they shown a positive association ($r = 0.181$) between their practice and awareness of patient safety objectives.

Conclusion

The present analysis suggests that one of the biggest issues facing healthcare globally is patient safety. It is critical that patients, healthcare professionals, and researchers all share accountability for patient safety in order to improve healthcare. Healthcare workers must maintain a safe standard of patient care while managing these risks by applying their knowledge and expertise in complicated systems.

Also, from this research it can be summarized that, the greatest percentage of head nurses had low level of knowledge as well as practice related international patient safety goals. Also, there was moderate association between total head nurses knowledge as well as their practice related to international patient safety goals.

Recommendations

- In light of this research's findings, the following suggestions are given.
- Encourage all head nurses in the study environment to participate in ongoing training programs as well as encourage activities about the worldwide patient safety goals, and these programs should be expanded to other settings that are comparable.
- Regular meetings it is important to address obstacles to the achievement of patient safety objectives, resolve any issues pertaining to medical mistakes in incident reports, and establish an action plan to assist the organization in enhancing patient safety procedures.
- Patient safety management concept must be involved in courses of nursing at the Faculty of Nursing for

undergraduate students.

- Creating and sustaining a culture of safety of patient at hospitals.

Suggestions for further research

- Replication of the study on other health care settings is highly recommended which help to improve patient care.
- Study to determine factors that affect safety of patient at hospitals.

Conflict of Interest

Not available

Financial Support

Not available

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