

STAFF NURSES' PERCEPTION OF PATIENT SAFETY MANAGEMENT:
A COMPARITIVE STUDY BETWEEN CERTIFIED AND NOT CERTIFIED MEDICAL
INTENSIVE CARE UNITS AT CAIRO UNIVERSITY HOSPITALS

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Authors:

* Hala Taher Othman, **Magda El molla , ** Magda Abd El- Hamed
*Clinical Instructor, **Assist. Prof. at nursing administration Department, Cairo University.

Introduction:

Patient safety is a cornerstone of quality in health care and its success and of a high-priority issue for all professionals, so the World Medical Association advocates health professionals to recognize safety as one of the core elements for improving quality in health care. Facilitating the development of collective knowledge about unsafe situations and practices and taking preventive action to avoid unnecessary risks are keys to success (Lenert, 2002)

Patient safety is a discipline in the health care sector that applies safety science methods toward the goal of achieving a trustworthy system of health care delivery. Patient safety is also an attribute of health care systems; it minimizes the incidence and impact of, and maximizes recovery from, adverse events (Emanuel ,Chukwu, and Azeez ,2008)

It has been well recognized widely and internationally that hospitals are not as safe as they should be (Johnstone & Kanitsaki, 2006) , so having a culture that promotes safety within the organization is an important and necessary precursor for improving the insufficiencies in patient safety (Pronovost & Sexton, 2005). Total Quality Management (TQM) is based on the premise that patients should be the focus of the organization. All the studies and improvements should aim the patient satisfaction in TQM and quality management system (Tutuncu, Kucukusta, & Yagci, 2005).

Patient Safety can be defined as protection from experiencing or for that matter causing, harm, injury, or damage. (Sundt, 2005) .The National Patient Safety Foundation identified the key property of safety as emerging from the proper interaction of component of the health care system. (Vincente,2006) mentioned that patient safety is the avoidance, prevention and amelioration of adverse outcomes or injuries stemming from the process of care.

Improvement in patient safety is defined as one of the major objectives in social and health care by the “Finnish Patient Safety Strategy for 2009–2013” Patient safety improvement requires organizational learning and knowledge transfer at the system level, which entails changes in organizational routines that cut across divisions, professions and levels of hierarchy (Wiig and, Lindøe, 2009)

Critical care is the specialized medical care of patients with or at high risk for life-threatening, or “critical,” conditions requiring constant monitoring and comprehensive care consisting of complex therapies and interventions. Most hospitalized patients with critical conditions are cared for in ICUs, patient care areas designed to provide extraordinary treatment by specially trained healthcare professionals, often with the use of high-tech equipment (Garrow, 2007).

Ensuring patient safety is becoming increasingly important for intensive care unit practitioners. The intensive care unit is particularly prone to medical errors because of the complexity of the patients, interdependence of the practitioners, and dependence on team functioning. Effective intensive care unit quality and safety programs capitalize on institutional resources and have multidisciplinary input with clear leadership, input from quality improvement initiatives, and data-driven assessment and monitoring to reduce medical errors (Hopewell, Clarke , Moher ,Wager , Middleton , Altman and Schulz , 2008)

Quality management systems are an important factor in promoting patient safety and reducing the risk of adverse events and medical errors in health care organizations. (Tutuncu and Erbil, 2006). The new paradigm in patient safety focuses on the systems rather than centering on individual errors, necessary to facilitate and enhance quality and protect patients (Tutuncu and, Kucukusta, 2007)

Significance:

The Institute Of Medicine report ‘To Err is Human’ (Kohn and, Donaldson, 2000) impacted that patient safety remains one of the most critical issues facing health care today and that nurses are the health care professionals most likely to intercept errors, prevent harm to patients, and also are at the center of patient care and therefore they are essential drivers of quality improvement

From the researcher’s point of view ,It is critical that nursing leaders and managers, clinical leaders, and nurses across care settings engage in a lifelong pursuit of using data and information as well as research evidence to inform practice combined with experiential knowledge, analyses, and evidence, Nurses will be challenged to continuously improve care processes and encourage peers and interdisciplinary colleagues to make sure patients receive the best possible care, regardless of where they live, their race or gender, or their socioeconomic circumstances

patient safety management should be maintained in all hospitals either certified or not certified, So results from the present study will investigate if there is difference between certified and non certified hospital regarding quality management system to be used as preliminary guidance for Cairo University Hospital Authority that will act as a proactive system to prevent /reduce patient risks at hospital – wide

Methodology:

Aim of the Study:

To compare staff nurses' perception of patient safety management in certified and not certified Cairo university hospitals

Research question:

To fulfill the aim of this study the following research question was formulated:
Is there a significant difference between certified and non certified hospitals regarding patient safety management from the nurses' point of view?

Research design:

A descriptive comparative study design was utilized to achieve the aim of the present study

Sample:

Convenience sample of staff nurses working at the medical ICUs in New Kaser El-Aini Teaching Hospital (certified hospital), total number was (53), and El Manial Specialized Hospital (not certified hospital) total number was (60), was included in the study.

Setting:

The study was conducted at the New Kaser El-Aini Teaching Hospital, it is considered to be a unique center for medical researches over the Middle East region and also conducted at El Manial specialized Hospital

Ethical consideration:

To conduct the present study an official permission was obtained from each of the following; the Vice Dean for post graduate study and Research at Faculty of Nursing, general medical director of New kaser El-Aini Teaching hospital and El Manial specialized Hospital, general nursing manager, and ethical committee. After explaining the purpose and the nature of the study, the researcher informed the study' nurses that Participation in the study is voluntary and confidential

Tool of data collection:

For the purpose of this study, patient safety management questionnaire guided by (The Australian Commission on Safety and Quality, 2005) and (Asian Journal of Health and Information Sciences, 2008) was modified and utilized after reviewing the related literature to measure nurse's perception about patient safety management

This questionnaire consisted of two parties as following:-

First part

Concerning the demographic data, (educational level, unit name, years of experience working at this unit, sex, and age).

Second part: -

It covered the 11 dimensions as following commitment to patient safety contained(3 items), policies and procedures concerning patient safety contained (3 items), accountability for patient safety contained (3 items), Identification and investigation of patient safety risks contained (6 items), management of sources regarding patient safety risks contained (8 items), evaluation of hospital management system contained (2 items), employee empowerment and training contained (6 items), leadership contained (8 items), teamwork contained (4 items), voluntary

incident reporting mechanism contained (4 items), and communication contained (6 items). As for the scoring system five –point Likert scale, were used to assess patient safety management

Strongly disagree (1), Disagree (2), Neither agree nor disagree (3), Agree (4) strongly agree (5)

Validity of the tool:

Tool content and validity were established by experts composed of five juries; three are professors from Nursing Administration department and two managers from nursing administration office at El Manial university hospital to test content validity. Each of the experts was asked to examine the instrument for content coverage, clarity, wording, length, format and overall appearance

Pilot study:

The pilot study was carried out on 13 staff nurses in different departments at New Kaser El-Aini Teaching Hospital and El Manial Specialized University Hospital to test the applicability and clarity of the questions of the study tools, estimate the time needed to complete the questionnaire, and to add or omit questions. Only one modification for the questions was done based on the pilot study analysis

Reliability of the tool:

The instrument was tested and demonstrated good internal reliability with cronbach's alpha = 0.97

Procedures:

Upon receiving the formal approval through formal channels, the researcher had a list of all staff nurse working at medical ICUs from the nursing director, and then participants were invited to participate in the study at all three shifts. After oral explanation, a written consent was obtained; the researcher gave the participant the patient safety management questionnaire in their working place and stayed with them while filling the questionnaire and collect the tools.

Statistical design:

The data collected from the participants were coded and entered into the statistical package for the social science (SPSS), version 20.0 for analysis. Data were presented using a descriptive statistics in the form of a frequency distribution, percentages, mean and standard deviation. (Chi square) test was also used to test difference between staff nurse's perception of patient safety management in relation to their demographic data, T-test used to test difference between two hospitals regarding nurse's perception of patient safety management . The significance level of all statistical analysis was at 0.05 (p value). The p value > 0.05 indicate the insignificant result. The p value < 0.05 indicate significant result

Result:

Table (1) percentage distribution of staff nurses in certified and not certified hospital in Relation To their socio-demographic data.

variables	Certified hospital		Not certified hospital	
	(n=53)		(n=60)	
	No	(%)	No	(%)
Sex				
Male	-	-	2	3.3
Female	53	100	58	96.7
Age / years:-				
From 20 to 30	20	37.7	11	18.3
From 31 to 40	30	56.6	46	76.7
From 41 to 50	3	5.6	3	5.00
Mean \pm SD	30.79 \pm 6.05		34.13 \pm 4.08	
Educational level				
Bachelor	-	-	2	3.3
Diploma	53	100	58	96.7
Total years of experience				
Less than 5 years	19	35.8	2	3.3
From 5- 10 years	6	11.3	5	8.3
More than 10 years	28	52.8	53	88.3
Mean \pm SD	9.58 \pm 7.00		14.97 \pm 4.25	

Table (1) shows that all staff nurses of the study were females in certified hospital and represent the majority in not certified hospital(96%), regarding to educational level all staff nurses in certified hospital were held diploma degree while the majority (96.7)% of staff nurses in not certified hospital were held diploma degree

Table (2) Percentage distributions of staff nurses in both certified and not certified hospitals in relation to their total perception of patient safety management.

	Certified hospital(n=53)						Not Certified hospital(n=60)					
	Good adherence		Excellent adherence		total		Good adherence		Excellent adherence		total	
	NO	(%)	NO	%	NO	%	NO	%	NO	%	NO	%
Staff nurses	28	52	25	48	53	100	50	83	10	17	60	100

Table (2) indicates that the majority of staff nurses had a good adherence to patient safety management in both certified hospital (52%) and not certified hospital (83%) respectively, while the minority of staff nurses had an excellent adherence to patient safety management in not certified hospital respectively

Table (3) Difference between certified and not certified hospital regarding staff nurses' perception of patient safety management

Dimensions	Certified hospital(n=53)	Not certified hospital(n=60)	t-test	
	Mean± SD	Mean± SD	t	p
Commitment to patient safety	9.2±2.5	10.1±2.7	-1.81	0.07
Policies and procedures concerning patient safety	10.5±2.7	9.8±2.6	1.29	0.20
Accountability for patient safety	11.0±2.4	9.2±3.2	3.39	0.001
Identification and investigation of patient safety risks	20.9±4.3	19.1±4.8	2.06	0.04
Management of sources regarding patient safety risks	27.5±4.9	25.0±6.2	2.55	0.01
Evaluation of hospital management system	6.8±1.5	6.00±2.1	3.21	0.002
Employee empowerment and training	20.5±3.9	17.3±5.1	3.89	0.00
Leadership	29.2±5.1	27.3±6.9	1.80	0.07
Teamwork	15.9±2.6	13.6±3.2	4.77	0.00
Voluntary incident reporting mechanisms	15.6±2.9	13.7±3.4	3.69	0.001
Communication	26.5±3.2	21.4±5.2	6.62	0.00
Total	193.62±21.79	172.21±34.51	3.96	0.00

*statistically significance difference at $p < 0.05$

Table (4) indicated that the highest mean score in certified hospitals (29.2±5.1), and in not certified hospital (27.3±6.9) was related to leadership while evaluation of hospital management system has the lowest mean score in certified hospital (6.8±1.5), and in not certified hospital (6.00±2.1)Also, insignificant difference was found between commitment to patient safety, policies and procedures concerning patient safety and leadership in both certified and not certified hospitals respectively

Discussion:

Regarding the demographic data, the result of the present study clarified that more than two thirds of the study were at the age group ranged from 31-40 years old and were technical nurses graduated from secondary technical nursing school. As regard their sex, it was noticed that a slightly less than the total number of the study were females. Moreover, it was revealed from this study that most of the study had more than 10 years of experience in both certified and not certified hospitals

Concerning the commitment to patient safety, the study revealed that nurses didn't commit to patient safety, on the other hand (Herbert , 2001) reported that hospitals must launch patient-safety initiatives and monitor their success, perhaps by including safety in hospitals' measures of performance, including balanced scorecards, (Orser and, Chen, 2001; Harris , Samore , Nafziger , Dirosario , Roghmann and,Carmeli, 2000) added that investments of staff and money must be made, including spending for new technology ,Spending priorities must include information transfer such as clear labeling of medications and computerized physician

orders , Organizational investment is needed to develop a workforce of people with advanced training in occupational health and safety and patient safety and additional funds are required from sources such as Provincial governments.

The finding of current study showed that the staff nurses weren't aware about that the patient safety policy and procedures align with other risk management policies and procedures , this result is incongruent with (Wade, 2003; Baker and Norton, 2001) who revealed that professional and accreditation bodies should identify best practices and specific strategies that would make hospitals safer for patients, also (Baker and Norton, 2001) reported that programs which focus on patients and their role in improving the accountability of the acute care system are needed .

Concerning accountability for patient safety this study revealed that staff nurses didn't know who is the accountable for patient safety, this is contradicted with (Koestenbaum and Block ,2001) who clarified that how patient safety accountability is delegated affects level of effort. Research on accountability has shown that closely specified accountabilities tend to be less effective than more broad or general accountabilities. The more specific the accountabilities, the less engaged people are likely to be in their work. whereas when accountabilities are nonspecific, the accountable person is likely to respond to the work situation in more learning-oriented ways, such as taking multiple perspectives and engaging in self-criticism.

This study showed that staff nurses were actively participated in a staff investigation reporting system, This is inconsistent with (Rosenberg and Yankaskas,2009) who mentioned that providers would be reluctant to report medical events due to concerns of blame, liability and estrangement from fear. Additionally, (Cohen, Epstein, López, Schneider, Weissman, and Weingart ,2009) indicated that rates of disclosure of adverse events by medical personnel remain low in hospitalized patients.

The present results revealed that the majority of nurses agreed that there was management of sources regarding patient safety risks and this result supported by (The Clinical Risk Management Guidelines for Western Australian Health Services,2004) which clarified that any caregiver should identify and understand organization's operating environment and strategic context . In order for health service's clinical risk management program to be effective, it should identify internal and external clinical risks that may pose a threat to the health system, organizational, business unit and team and/or patient. Undertake a systematic analysis of the health system, organizational, business unit and team environments to understand the nature of risk and to identify tasks for further action. Evaluate the risks and compare against acceptability criteria to develop a prioritized list of risks for further action and identify the range of options to treat risks, assess the options, prepare risk treatment plans and implement them using available resources

It was noticed based on the result that staff nurses agreed that they were participated in the review of patient safety management systems procedures which is supported by (Western Australian strategic plan for safety and quality in health care 2008–2013) who added that to support the delivery of safe and high quality health care can be through the introduction, use,

monitoring and evaluation of evidence-based clinical guidelines, policies and clinical practice improvement programs

The present study indicated that staff nurses received on-going training and education on topics relevant to patient safety in their area which is congruent with The IOM report(2004) which noted that the quality of patient care is directly affected by the degree to which hospital nurses are active and empowered participants in making decisions about their patient's plan of care and by the degree to which they have an active and central role in organizational decision making

Concerning leadership, staff nurses agreed on that managers were caring about how they feel and what they need at work also providing opportunities to express views this result is supported by (Baker and,Norton, 2002) who said safety needs to be an integral part of an organization's culture; it has been shown that health-care workers' compliance with safety protocols is more likely where safety is on the management priority list. A Canadian survey showed that 96 per cent of surveyed health-care professionals rated senior leadership commitment to identifying adverse events and improving patient's safety as "very important"

The present study demonstrated that staff nurses agreed on that hospital had Cross-departmental standard assignment process, provided harmony and trust among colleagues and responded and listen to employees, this was indicated by (Ross and Peter ,2004) who mentioned that when teams function well and organization structure factors support their work, outcomes are better, even at institutions that have a high intensity of specialized care for those particular needs. The effectiveness of individuals and teamwork is dependent upon leadership, shared understanding of goals and individual roles, effective and frequent communication, having shared governance, and being empowered by the organization

Upon this study, staff nurses had voluntary incident reporting mechanisms and this is consistent with (Dickman, Dorman, Engineer, Fahey, Holzmuller, Lubomski, Morlock, Steinwaches, Pronovost, Thompson and Wu ,2005) found that hospitals tended to report incidents with more serious outcomes. Moreover, (Camargo ,2009) stated that respondents reported events if the potential for patient harm increased, although that mistakes were held against them

In contrast, World Health Organization (2006) reported that although there may be benefits to be gained from the establishment of large reporting systems, there are challenges that accompany their development, both at the individual reporting level and at the data-handling and analysis level

Based on this study, staff nurses are agreed on that communication was provided in their work and this is reported by The Joint Commission's Annual Report on Quality and Safety(2007) who found that inadequate communication between healthcare providers, or between providers and the patient and family members, was the root cause of over half the serious adverse events Other leading causes included inadequate assessment of the patient's condition, and poor leadership or training

Conclusion:

The results of the current study concluded that the staff nurses in certified hospitals manage patient safety effectively more than staff nurses in not certified hospitals

Recommendations:

Based on the findings of the present study, the following recommendations were deduced:

1. Provide safety education to staff nurses, managers that include training on team-work and education in communication skills
2. Raising awareness of staff nurses about patient safety policies and procedures through conferences, seminars workshops
3. Establish a patient safety committee. That forecast, detects, prevent all events or potential events and develop policies, procedures of patient safety in not certified hospital
4. Develop effective mechanisms for communicating safety problems and solutions through representative members of safety committee in different units in not certified hospital
5. Develop a well established system for incident reporting, and all staff nurses should be informed and trained in not certified hospital.

Reference

- 1- Australian Government National Health and Hospitals Reform Commission (2008). Beyond the Blame Game: Accountability and performance benchmarks for the next Australian Health Care Agreements.
- 2- Baker, G. R., Norton, P. (2001). "Making Patients Safer! Reducing Error in Canadian Healthcare." *Healthcare Papers* 2(1): 10-31.
- 3- Baker, G. R., Norton, P. (2002) "Patient Safety and Healthcare Error in the Canadian Healthcare System: A Systematic Review and Analysis of Leading Practices in Canada with Key Initiatives Elsewhere." Report to Health Canada.
- 4- Emmanuel BE, Chukwu LO, Azeez LO. Cast net design characteristics, catch composition and selectivity in tropical open lagoon. *African Journal of Biotechnology*. 2008a ; 7 (12): 2081 – 2089.
- 5- Harris A.D., Samore M.H., Nafziger R., Dirosario K, Roghmann M.C., Carmeli Y. (2000) "A survey on handwashing practices and opinion of healthcare workers." *Journal of Hospital Infection*; 45:318-321.
- 6- Garrow JS (2007) What to do aboutCAM: how much of orthodox medicine is evidence based? *Br MedJ* 335:951

- 7- Hebert, P. C., Levin, A. V., (2001). "Bioethics for clinicians: 23. Disclosure of medical error." *Canadian Medical Association Journal*. 164(4): 509-13.
- 8- Hopewell S, Clarke M, Moher D, Wager E, Middleton P, Altman DG, Schulz KF, the CONSORT Group (2008) CONSORT for reporting randomized controlled trials in journal and conference abstracts: explanation and elaboration. *PLOS Med* 5:e20
- 9- Institute of Medicine, Board on Health Care Services (2004). "Keeping patient safe: transforming the work environment of nurses" Washington, National Academy Press
- 10- Johnstone, M.J. and Kanitsaki O. (2006), "Culture, language, and patient safety: making the link", *International Journal for Quality in Health Care*, Vol.18, No.5, pp. 383-388.
- 11- Koestenbaum P, Block P. *Freedom and Accountability at Work: Applying Philosophic Insight to the Real World*. San Francisco: Jossey-Bass/Pfeiffer; 2001.
- 12- Kohn L, Corrigan J, Donaldson M, editors. *To Err Is Human: Building a Safer Health System*. Washington, DC: National Academy Press; 2000.
- 13- Lenert, E. M., (2002). *Theorizing the Internet from a Social Constructivist Perspective*. (Juried submission). International Association for Media and Communication Research, Barcelona, Spain 2002.
- 14- Orser, B. A., Chen, R. J., et al. (2001). "Medication errors in anaesthetic practice: a survey of 687 practitioners." *Canadian Journal of Anaesthesia*. 48(2): 139-46.
- 15- Pham, Hoangmai H., Jennifer Coughlan and Ann S. O'Malley, "The Impact of Quality-Reporting Programs on Hospital Operations," *Health Affairs*, Vol. 25, No.5 (September/October 2006).
- 16- Pronovost, P. and Sexton. B. (2005), "Assessing Safety Culture: Guidelines and Recommendations", *Quality and Safety in Health Care*, Vol.14, pp. 231-233.
- 17- Siri Wiig & Preben H. Lindøe Patient Safety in the interface between hospital and risk regulator. *Journal of Risk Research*, Vol. 12, Iss. 3-4, April-June 2009, 411-426
- 18- Standards Australia (2004). *Australian/New Zealand Standard on Risk Management AS/NZS 4360:2004*.
- 19- Sundt, T. M., J. P. Brown . (2005). Focus on Patient Safety: Good News for the Practicing Surgeon. *Ann Thorac Surg* 79(1): 11-5.
- 20- Tutuncu, O., Kucukusta, D. and Yagcı, K. (2005), "An Analysis of Organizational Commitment and Job Satisfaction among ISO 9001:2000 Certified Companies: An

Empirical Study on Hospitality Industry”, International Conference of Business, Economics and Management Disciplines, New Brunswick, Canada.

21- Tutuncu, O. and Kucukusta, D. (2007), “Relationship between Organizational Commitment and EFQM Business Excellence Model: A Study on Turkish Award Winners”, Total Quality Management & Business Excellence, Vol.18, No.10, pp. 1083-1096.

22- Wade, J. G. (2003). “Patient safety in anaesthesia – continuing challenges and opportunities.” Canadian Journal of Anaesthesia 50(4): 319-322.