

Nurses' Patient Safety Competencies in Aceh Province, Indonesia

Rahmad Julianto¹, Pratyanan Thiangchanya², Nongnut Boonyoung³

Purpose: To determine the level of nurses' patient safety competencies in Aceh, Indonesia.

Methods: A descriptive study was conducted to randomly recruit 207 nurses in a hospital in Banda Aceh, Indonesia. The nurses' patient safety competencies was measured by using the Patient Safety Competencies of Nurses Questionnaire (PSCNQ) which was a self-reported, 29-item questionnaire rated on a 4-point Likert scale (1 to 4), developed based on the Canadian Patient Safety Institute's Safety Competencies.

Result: More than half of nurses participated in the study were less than 30 years old, with a mean age of 31 years. The majority was female, married, earned diploma degree, and had working experience of 1-10 years. The overall nurses' patient safety competencies was at a high level. The area that nurses reported highest competency was "use personal protective equipment". Whereas the area they reported lowest competency was "maintain the documents of adverse events and report each adverse event."

Conclusion: The study findings suggested that Acehese nurse leaders should further maintain and promote nurses' patient safety competencies. Studies exploring factors contributing to nurses' patient safety competencies together with utilizing other data collection methods, such as observation is worth investigated.

Key words: Competencies, patient safety, nurses, hospital-based.

¹ Master Student, Faculty of Nursing, Prince of Songkla University, Thailand.
Email : ners.rahmad@gmail.com

² Lecturer of Nursing Administration Department, Faculty of Nursing, Prince of Songkla University, Thailand

³ Lecturer of Nursing Administration Department, Faculty of Nursing, Prince of Songkla University, Thailand

Introduction

Patient safety is one of major concerns in today's health services. Since the Institute of Medicine (IOM) declared in 1999 that nearly 100,000 people in the United States die each year (IOM as cited in Jewel & McGiffert, 2009), attention has been paid to urge countries around the globe to improve this condition. The World Health Organization (WHO) has taken several initiatives, for example the establishment of the World Alliance for Patient Safety (Andermann et al., 2011) to respond to this problem. We are in an era of working environment toward patient safety goal; and yet implementation of patient safety policies and practices still continue to be significant challenges for all parties (Emanuel et al., 2008), including nursing.

The common problems contributed to patient safety incidents include medication errors, falls, surgical site infections, ventilator-associated pneumonia, pressure ulcer, etc (Emanuel et al., 2008). Nurses are among several health care personnel who must be responsible for patient safety (Clarke & Donaldson, 2008). They are expected to have certain competencies to ensure that safe patient care is delivered and that no harm occurs to their patients (Smith, 2011). Although nurses' competencies can not be viewed in isolation from other contributing factors to patient safety (e.g., nurses' workload, nursing shortages, working conditions, nurses' personal physical and psychological conditions), they form a basic foundation to this matter. Patient safety can be achieved only if it is recognized as "a shared responsibility", particularly from individual nurses (Ballard, 2003).

Nurses have made critical contribution to display their knowledge and skills regarding patient safety in the work environment (Clarke & Donaldson, 2008). They should have adequate competencies to ensure safe care (Ballard, 2003). There have been many guidelines or frameworks established regarding patient safety competencies for healthcare professionals particularly for nurses (Cronenwett et al., 2007; Smith, 2011). The Canadian Patient Safety Institute (CPSI) has established a framework that can provide information in depth and easy to

assess the perception regarding patient safety of healthcare professionals including nurses (Okuyama, Martowirono & Bijnen, 2011). The CPSI framework can be used to guide the assessment of nurses' core competencies requiring for enhancing patient safety (Frank & Brien, 2008). The key domains of the CPSI framework include 1) contribution to a culture of patient safety, 2) working in teams for patient safety, 3) communicating effectively for the patient's safety, 4) management of risk, 5) optimizing human and environmental factors, and 6) recognizing, responding to and disclosing adverse events. A Delphi study was conducted in Indonesia in order to establish a set of core competencies requiring for use as standards examined after nurses completing their pre-service nursing education. Twelve experts were involved in a 5-round Delphi. It was reported that six out of twelve assessable core competencies were related to patient safety (Lock, 2011). These patient safety-related competencies are partly congruent with the CPSI core competencies. The findings of Lock's study (2011) support that using the CPSI framework to explore nurses' patient safety competencies in Indonesia should be valid.

Recently, the Ministry of Health of Indonesia (2010) has established a set of standard to classify the hospitals by considering the appropriate facilities, resources and capabilities of the health services. In addition, the hospitals in Indonesia have started to promote patient safety based on the criteria of Joint Commission International (JCI) in order to improve the quality of patient safety care (Ministry of Health of Indonesia, 2012). Unfortunately, these may not be complied by nurses due to some personal and institutional constraints e.g. a study exploring hand hygiene compliance of healthcare workers, including nurses and its barriers in a rural Indonesia district revealed that their hand hygiene compliance was poor and that was attributed to limited resources (water supply), tolerance of condition (reflecting attitudes), and organizational culture (Marjadi & McLaws, 2010). Although this study has limited generalizability, it does demonstrate that not all policies could be effectively implemented.

At this stage, there is no known study reporting whether healthcare personnel, particularly nurses have possessed patient safety competencies in Indonesia. This study offers a baseline knowledge so that further initiatives can be made. The objective of this study was to determine the level of patient safety competencies as perceived by nurses in Aceh, Indonesia.

Methods

Setting

The descriptive study was conducted at inpatient ward in a tertiary, more than 300-bed government hospital and a largest hospital in a Western Indonesian province (Aceh Province).

Sample and sampling

Purposive random sampling was employed to recruit 218 nurses who had at least diploma degree in nursing and directly involved in clinical practice and patient care. 207 nurses were completed questionnaires (95 %) and returned.

Instruments

Data were collected using the questionnaire developed for this study: the Demographic Data Form (DDF) and the Nurses' Patient Safety Competencies Questionnaire (NPSCQ). The NPSCQ was constructed by researcher based on CPSI. This questionnaire was checked for content validity by three experts: one expert which lecturer from the Faculty of Nursing, Prince of Songkla University, a nurse who expert in quality care and safety and works in Hospital, Bangkok and another expert is lecturer from School of Nursing, in Indonesia.

The questionnaire was translated into an Indonesian version and checked for its reliability using 20 nurses from a tertiary hospital in another province in Indonesia. The reliability of the NPSCQ was examined for its internal consistency, yielding a Cronbach's alpha coefficient of .91.

Ethical Consideration

This study was conducted with consideration to the protection of the human rights of all subjects. The approval of the Research Ethic Committee, Faculty of Nursing, Prince of Songkla University was obtained and the permission for data collection was also sought from the Director of General Hospital in Aceh. Every subject had the freedom to ask for an explanation and fill in the questionnaires or can withdraw from this study at anytime with no consequences. In addition, the subjects were reassured that their responses would be kept confidential and their identities were not revealed on the research report or any publications of the study.

Data Analysis

The descriptive statistic including frequencies, means, standard deviation, and percentage to explain the demographic data of the selected nurses were used and to explore the level of nurses' patient safety competencies.

Results

Demographic data

Demographic data are shown in Table 1. The mean age of the subject was 31 years and most of them were female and married. More than two-thirds of the subjects had diploma degree with the majority of them had worked during the period of 1 – 10 years. In addition, the subjects had currently worked in one of the following wards; medical-surgical wards, intensive care wards, general disease wards, special disease wards and private ward. Most of the subjects earned a monthly salary between 1,500,000 – 3,000,000 rupiah (1 US\$ = 9,500 Rupiah). With regards to the trainings or short course trainings, more than three-quarters of the subjects did not yet attend the trainings or short courses trainings regarding patient safety.

Table 1 Frequency and Percentage of Demographic Data

No	Characteristic	Frequency	Percentage
1	Age (year)		
	21 – 30	115	55.5
	31 – 40	78	37.7
	41 – 50	14	6.8
	(M = 31.15, SD = 5.87, Min – Max = 21 – 49)		
2	Gender		
	Female	161	77.8
	Male	46	22.2
3	Marital Status		
	Married	145	70.0
	Single	61	29.5
	Widowed	1	0.5
4	Level of Nursing Education		
	Diploma	142	68.6
	Bachelor	65	31.4
5	Work Experience (year)		
	1 – 10	164	79.2
	11 – 20	34	16.4
	> 20	9	4.3
6	Salary per month		
	Rp. 1,500,000 – 3,000,000	155	74.9
	Less than Rp. 1,500,000	35	16.9
	> Rp. 3,000,000	17	8.2
7	Training courses in safety area		
	No	172	83.1
	Yes	35	16.9

Nurses' Patient Safety Competencies

This part describes the level of nurses' patient safety competencies (Table 2). The overall score of nurses' patient safety competencies was at a high level, presenting with a mean score of 3.49 (SD = 0.32). For the domain scores, the highest mean score was in the domain of 'contribute to a culture of patient safety' and the lowest mean scores were in the domain of 'working in a team for patient safety' and 'recognize, respond to and disclose adverse events' with the same mean score of 3.40.

Table 2 Mean, Standard Deviation and Level of Nurses' Patient Safety Competencies (N = 207)

Nurses' Patient Safety Competencies	M	SD	Level
1. Contribute to a culture of patient safety	3.69	0.32	High
2. Manage safety risk	3.62	0.44	High
3. Communicate effectively for patient safety	3.46	0.43	High
4. Optimize human and environmental factors	3.41	0.40	High
5. Work in teams for patient safety	3.40	0.42	High
6. Recognize, respond to and disclose adverse events	3.40	0.38	High
Total	3.49	0.32	High

The item analysis of all statements of the NPSCQ revealed that “use personal protective equipment such as mask, gloves, gown, etc when in contact with the infected patient” was ranked the highest and “maintain the documents of adverse events and perform reporting each adverse event” was ranked the lowest. The five highest and lowest nurses' patient safety determined by the mean scores are represented in Table 3.

Table 3 Five Highest and Lowest Nurses' Patient Safety Competencies

Nurses' Patient Safety Competencies	M	SD
Five Highest Mean Score		
1. Use personal protective equipment such as mask, gloves, gown, etc when in contact with the infected patient.	3.88	0.32
2. Integrate safety practice into daily activities such as hand washing before and after taking care the patient.	3.79	0.41
3. Use safety medical equipment to care the patient properly.	3.68	0.46
4. We have a good control towards infection by applying an aseptic technique, hand hygiene, etc.	3.68	0.48
5. Recognize hazard and sign of hospital-acquired infection.	3.65	0.51
Five Lowest Mean Score		
1. Maintain the documents of adverse events and perform reporting each adverse event.	3.26	0.53
2. Receive appropriate debriefing and the inter-professional team support after an adverse event.	3.31	0.57
3. Recognize an adverse events and possible risk of harm such as nosocomial infection, patient falls or bedsore.	3.34	0.47
4. Perform the tasks in accordance with the existing standard precautions within the organization.	3.34	0.48
5. Perform reporting immediately when errors or risk of harm will occur in the workplace.	3.35	0.54

Discussion

The finding of this study indicated that total score nurses' patient safety competencies was at the high level. There were several factors that can affected, the nurses came from a general hospital which is at the tertiary type in Indonesia particularly in Aceh province although most of them did not yet attend the trainings or short course trainings regarding patient safety. Nurses were worked in a tertiary type have the responsibility and high dedicate to provide safe care in the work environment (Ying, Kunaviktikul, & Tonmukayakal, 2007).

Other reason for the high level of nurses' patient safety competencies reported in this study might be related to relatively higher nursing educational level (only 31.4 % had bachelor degree) and professional maturity in the workplace although the majority of them had worked during 1 until 10 years in the hospital. Ying's study showed that the nursing educational programs at the high level can increase their individual capacity and professional maturity in their working (Ying et al., 2007). In addition, the educational level can influence of nurses to perform high skills effectively on their jobs (Young, Lehrer, & White, 1991).

From the overall domains in this study showed that the average level of nurses' patient safety competencies was at a high level. The highest mean score was the domain of contribute to a culture of patient safety and the lowest mean scores were the domains of work in teams for patient safety and recognize, respond to and disclose adverse events. These findings showed that the nurses were aware to provide safe care effectively with contribute to a culture of patient safety; however, they were not sure they could overcome handling the safe care during work in teams and recognize, respond to and disclose adverse events in effectively in the workplace. It may occur caused the government or provider healthcare have applied the regulations and guidelines of standard to promote patient safety in the workplace particularly in the hospital in order to protection for nurses and patient (Ballard, 2002).

There were three out of highest statements show part of competence of contribute to a culture of patient safety including "use personal protective equipment such as mask, gloves, gown, etc when in contact with the infected patient", "integrate safety practice into daily activities such as hand washing before and after taking care the patient" and "use safety medical equipment to care the patient properly". There were three out of highest statements show part of competence of contribute to a culture of patient safety including "use personal protective equipment such as mask, gloves, gown, etc when in contact with the infected patient", "integrate safety practice into daily activities such as hand washing before and after taking care the patient and "use safety medical equipment to care the patient properly". These findings show that the nurses have a good commitment to conduct safe care based on existing guidelines with using personal protective equipment, act of safety practice with hand washing and use safety medical equipment to care the patient properly. One of study showed that the nurses was considered to commitment with their patient safety in order to protect themselves and other patients in the workplace through use personal protective equipment (Neves et al., 2011). The relevant studies found that the compliance of nurses, regarding the use of personal protective equipment, can influence the performance of nurses which then promotes patient safety and prevents the risk of infection (Ganczak & Szych, 2007; Mukwato, Ngoma , & Maimbolwa, 2008).

Considering the lowest mean score of statement in this study, there were three out of lowest statements indicate part of competence of recognize, respond to and disclose adverse events including "maintain the documents of adverse events and perform reporting each adverse event", "receive appropriate debriefing and the inter-professional team support after an adverse event" and "recognize an adverse events and possible risk of harm such as nosocomial infection, patient falls or bedsore". These results indicate that the nurses still have obstacles to handling adverse events.

There were several studies were described regarding problems adverse events by nurses. One of study in Greece found that there were several factors impeding nurses to reporting adverse events such as procedures, culture and dishonor among nurses, lack of social control as well as workload and tradition in the workplace (Moumtzoglou, 2010). In addition, a study in Iran show that there were many barriers in reporting the errors relate their perception of the incidence of errors, organizational factors and high work load (Hashemi, Nasrabadi, & Asghari, 2012).

However, relating to their competency, various challenges are still faced by nurses in Indonesia including the lack of human resources, a high occurrence of errors which affect negatively the quality of healthcare services (Anugrahini, 2010; UGM, 2011; Waluyo, 2010). These result of the study showed that the nurses have awareness to apply patient safety and they were motivated to increase their knowledge and experience regarding patient safety although facilities and existing resources were limited in the workplace.

Conclusion

Nurses administration in the hospital should be improved their knowledge and skills with involve patient safety competencies in order to promote patient safety and maintain quality of health care in the hospital.

The result of this study provide useful information for nursing practice and nursing education; especially it provides baseline data regarding patient safety competencies among nurses in Aceh Province in Indonesia. Additionally, the results of this study are expected to provide educational skills and trainings effectively for the development of nursing competencies and healthcare services optimally.

Acknowledgement

The author would like to express gratitude to Faculty of Nursing, Prince of Songkla University, Thailand; The Government of Aceh Province; and Dr. Zainoel Abidin General Hospital in Banda Aceh for their support of this study. I also would like to greatest appreciation to Assist. Prof. Dr. Wongchan Petpichetchian for her suggestion and guidance during the writing of the study. Finally, many thanks are also expressed to participants and all of the nursing students who participated in this study.

References

- Andermann, A., Ginsburg, L., Norton, P., Arora, N., Bates, D., Wu, A., & Larizgoitia, I. (2011). Core competencies for patient safety research: A cornerstone for global capacity strengthening. *BMJ Quality & Safety*, 20(1), 96-101.
- Anugrahini, C. (2010). Faktor individu dan organisasi dengan kepatuhan perawat dalam menerapkan pedoman patient safety di RSAB Harapan Kita [Individual and organizational factors of the nurses' adherence to apply patient safety guidance in RSAB Harapan Kita]. Universitas Indonesia.
- Ballard, K. (2003). Patient safety: A shared responsibility. *The Online Journal of Issues in Nursing: A Scholarly Journal of the American Nurse Association*. Retrieved from: <http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Volume82003/No3Sept2003/PatientSafety.aspx>.
- Clarke, S. P., & Donaldson, N. E. (2008). Nurse staffing and patient care quality and safety. In R. G. Hughes (Eds.), *Patient Safety and Quality an Evidence-based Handbook for Nurses* (pp. 1-25). Rockville, MD: Agency for Healthcare Research and Quality.
- Cronenwett, L., Sherwood, G., Barnsteiner, J., Disch, J., Johnson, J., Mitchell, P., . . . Warren, J. (2007). Quality and safety education for nurses. *Nursing Outlook*, 55(3), 122-131.
- Emanuel, L., Berwick, D., Conway, J., Combes, J., Hatlie, M., Leape, L., . . . Walton, M. (2008). What exactly is patient safety. In K. Henriksen, J. B. Battles & M. A. Keyes (Eds.), *Advances in patient safety: New directions and alternative approaches* (Vol. 1, pp. 1-18). Rockville, MD: Agency for Healthcare Research and Quality.
- Frank, J. R., & Brien, S. (2008). *The safety competencies: Enhancing patient safety across the health professions* (1st ed.). Ottawa, ON: Canadian Patient Safety Institute
- Ganczak, M., & Szych, Z. (2007). Surgical nurses and compliance with personal protective equipment. *Journal of Hospital Infection*, 66, 346-351. doi: S0195-6701(07)00171-5 10.1016/j.jhin.2007.05.007
- Hashemi, F., Nasrabadi, A. N., & Asghari, F. (2012). Factors associated with reporting nursing errors in Iran: A qualitative study. *BMC Nursing*, 11, 1-8.
- Jewel, K., & McGiffert, L. (2009). To err is human—to delay is deadly: Ten years later, a million lives lost, billions of dollars wasted. *Austin TX: Safe Patient Project*.
- Lock, L. (2011). Selecting examinable nursing core competencies: A Delphi project. *International Nursing Review*, 347-353.

- Marjadi, B., & McLaws, M. L. (2010). Hand hygiene in rural Indonesian healthcare workers: Barriers beyond sinks, hand rubs and in-service training. *Journal of Hospital Infection*, 76, 256-260.
- Ministry of Health of Indonesia. (2010). *Peraturan Menteri Kesehatan Republik Indonesia nomor 340 tentang klasifikasi rumah sakit [The Rule of Ministry of Health Republic of Indonesia number 340 regarding the classification of hospital]*. Jakarta: Retrieved from <http://www.pdpersi.co.id/peraturan/permenkes/pmk3402010.pdf>
- Ministry of Health of Indonesia. (2012). Dukungan kompetensi tenaga kesehatan songsong penerapan akreditasi baru rumah sakit [Supporting health care competencies in new hospital accreditation]. Retrieved from <http://www.depkes.go.id/index.php/berita/press-release/1858-dukkungan-kompetensi-tenaga-kesehatan-songsong-penerapan-akreditasi-baru-rumah-sakit.html>
- Moumtzoglou, A. (2010). Factors impeding nurses from reporting adverse events. *Journal of Nursing Management*, 18, 542-547.
- Mukwato, K. P., Ngoma, C. M., & Maimbolwa, M. (2008). Compliance with infection prevention guideline by health care worker at Ronald Ross General Hospital Mufulira Distric. *Medical Journal of Zambia*, 35(3), 110-116.
- Neves, H. C., Souza, A. C., Medeiros, M., Munari, D. B., Ribeiro, L. C., & Tipple, A. F. (2011). Safety of nursing staff and determinants of adherence to personal protective equipment. *Revista Latino-Americana de Enfermagem*, 19, 354-361. doi: S0104-11692011000200018
- Okuyama, A., Martowiriono, K., & Bijnen, B. (2011). Assessing the patient safety competencies of healthcare professionals: A systematic review. *British Medical Journal Quality & Safety*, 20, 991-1000. doi: bmjqs-2011-00014810.1136/bmjqs-2011-000148
- Smith, E. L. (2011). *Current assessments of quality and safety competencies in registered professional nurses: an examination of nurses leader perceptions*. Unpublished Doctor of thesis, Columbia University, USA.
- Swansburg, R. C., & Swansburg, R. J. (2002). *Introduction to management and leadership for nurse managers* (3rd ed.). Sudbury, MA: Jones and Bartlett.
- UGM. (2011). Health care and patient safety still minimal. Retrieved from <http://www.ugm.ac.id/en/?q=news/health-care-and-patient-safety-still-minimal>.
- Waluyo, T. T. (2010). Upaya penyelenggaraan patient safety di Rumah Sakit Umum Daerah Sumbawa [Effort in applying patient safety in RSUD Sumbawa]. Retrieve from <http://etd.ugm.ac.id/index.php?mod=penelitiandetail&sub=PenelitianDetail&act=view&typ=html&bukuid=42509&obyekid=4>.
- Ying, L., Kunaviktikul, W., & Tonmukayakal, O. (2007). Nursing competency and organizational climate as perceived by staff nurses in a Chinese university hospital. *Nursing & Health Sciences*, 9, 221-227. doi:10.1111/j.1442-2018.2007.00324.x
- Young, W. B., Lehrer, E. L., & White, W. D. (1991). The effect of education on the practice of nursing. *Journal Nursing Scholarsh*, 23, 105-108.