ทักษะและทัศนคติของพยาบาลที่ปฏิบัติงานในหอผู้ป่วยวิกฤตในโรงพยาบาลศูนย์กลางแห่งหนึ่งในเวียดนาม*

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บทคัดย่อ

การวิจัยเชิงบรรยายแบบภาคตัดขวางนี้ มีวัตถุประสงค์เพื่อศึกษาทักษะและทัศนคติตามการรับรู้ของพยาบาลจำนวน 160 คน ที่ปฏิบัติงานในหอผู้ป่วยวิกฤตของโรงพยาบาลศูนย์กลางเว้ เก็บข้อมูลโดยใช้แบบสอบถามทักษะและทัศนคติที่ผู้วิจัยสร้างขึ้นตามแนวคิดทักษะการพยาบาลในหอผู้ป่วยวิกฤตของเวียดนามและแนวคิดความปลอดภัยของผู้ป่วยของกระทรวงสาธารณสุขเวียดนามที่เป็นภาษาเวียดนาม ความเชื่อมั่นของแบบสอบถามทักษะและทัศนคติได้ค่าเท่ากับ 0.94 และ 0.95 ตามลำดับ ผลการวิจัยพบว่า ทักษะและทัศนคติโดยรวมของพยาบาลอยู่ในระดับสูง ทักษะในรายข้อทุกข้ออยู่ในระดับสูง ยกเว้นทักษะการดูแลผู้ป่วยที่มีภาวะช็อคจากไฟฟ้าอยู่ในระดับปานกลาง พยาบาลมีทัศนคติในรายข้อทุกข้ออยู่ในระดับสูง ทักษะและทัศนคติของพยาบาลที่ปฏิบัติงานในแต่ละหอผู้ป่วยวิกฤติมีความแตกต่างกันอย่างมีนัยสำคัญทางสถิติ

คำสำคัญ: ทักษะ ทัศนคติ พยาบาล หอผู้ป่วยวิกฤต

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Skills and attitudes of nurses working in intensive care units in a central hospital, Vietnam*

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Abstract

This descriptive cross-sectional research aimed to study skills and attitudes as perceived by 160 nurses in intensive care units (ICUs) at Hue Central Hospital in Vietnam. Data were collected by using a Vietnamese version of ICU nurses' skills and attitudes questionnaire developed by the researcher based on the framework of the Vietnam ICU nursing skills and the framework of safe patients of the Ministry of Health Vietnam. The reliabilities of the skill and attitude parts were 0.94 and 0.95, respectively. The study results indicated that the overall skills and attitudes of nurses were at high levels. All skills were at high levels except the skill for taking care of patients with electric shock, which was at moderate level. Nurses had high levels in all attitiude items. There were statistically differences of skills and attitudes among nurses in different ICU departments.

keywords: skills; attitudes; nurse; intensive care unit

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Background and significance

World Health Organization (WHO) said that nurses and midwives are the backbone of every health system and play a vital role in providing health services.[1] At present, the health care environment is complex and changes rapidly. If the nurse is incompetent, it will affect the quality of nursing care and treatment results for the patient. Nurses are responsible for provision of care in safe, effective, efficient, timely, patient-centered, and equitable manner is one of competency of registered nurses.[2] However, nurses working in intensive care units (ICUs) require more specific nursing skills and have to deal with different situations from various types of patients and nursing care compared to those working in general wards. General wards are units where patients with non-critical illness were admitted and treated with medication, surgery, or specific treatment and care. Intensive care units admitted patients with severe or life-threatening illnesses and injuries.

Along with clinical skills of ICU nurses, attitude is an important component of clinical care decision making and management for critically ill patients in a highly stressful care environment. It helps nurses to be confident in themselves, provide safe and secure nursing care.[3] Attitude is the interest in nursing practices to have a great incentive to perform their work as well as improve their own nursing capabilities. Moreover, respectful for patients, relatives, health care professionals and other staff means that nurses respect themselves.[4] Stress factors in the ICU, such as high mortality rates, isolation, high workloads, etc. gradually influence the attitude of nurses in the ICU.[5]

In Vietnam, the ICU nurses have to follow the Vietnam standard of nursing competency and specific competency of intensive care including patient care, taking care of patients with emergency situation, taking care of patients as a respiratory therapist, taking care of patients with arterial and intravenous lines, patient-ventilator management, life support, taking care of patients with heart attack, taking care of patients with acute renal failure, taking care of patients with respiratory failure.[6]

At Hue Central Hospital, Vietnam, there are three departments of ICU that take care of patients with critical illnesses: General ICU, Cardiovascular ICU, and Pediatric ICU. ICU nurses in the three units follow the intensive care skills based on Vietnam standard developed by Anh.[7] In order to understand the problems of skills and attitudes of ICU nurses, the researcher interviewed five ICU nurses working at ICUs of Hue Central Hospital in Thua Thien Hue. The interview focused on patient care skills in ICU based on Anh[7] and the attitude of nurses on patient safety as prescribed by the Ministry of Health Vietnam[8] when taking care of critically ill patients. The interviewed ICU nurses had experience of caring for patients in ICU more than one year. In terms of expertise, they stated that their main roles were to assess the patient, plan of care, implement nursing care plan, and evaluate all patients treated in ICU. Two of them felt unconfident about patient care skills in ICU. They expressed that they remembered the core skills of patient care in ICU, however, they did not guarantee that they followed all the procedural steps. Three of them said they did not anticipate medical incidents that might occur during their care for patients in ICU. Thus, lack of good critical care skills and attitudes towards patient safety of ICU

nurses may cause adverse patient outcomes. Studies conducted in Hue Central Hospital found some incidences occurred in ICU patients including 15.1% of pressure ulcers within the second week to third-week staying in ICU, 81.1% of dysphagia in cerebral stroke patients, 19.2% of pneumonia among patients with dysphagia, and 9.6% of mortality rate among patients with dysphagia.[9-11]

As mention above, ICU nurses required specific skills and attitudes in ICU patient care in order to ensure patients' safety and effective outcomes. There are no previous studies exploring skills and attitudes of ICU nurses at Hue Central Hospital. From this gap, the researcher is interested in studying ICU nurses' skills of patient care as well as their attitudes towards safety of patients. The results of this study might be able to guide the development of ICU nursing competency in Hue Central Hospital.

Objectives of the study

1. To study levels of skills and attitudes perceived by ICU nurses in Hue Central Hospital, Viet Nam

2. To study differences of skills and attitudes of ICU nurses practicing in three ICUs at Hue Central Hospital, Viet Nam

Material and Methods

Study design and population: This study used the descriptive method with a cross-sectional approach. The population used in this study was all nurses from General ICU, Cardiovascular ICU, and Pediatric ICU of Hue Central Hospital in Vietnam totaling 160 nurses. The inclusion criterion was ICU nurses who earned a diploma or bachelor's degree of nursing.

Instrument: A self-completed questionnaire developed by the researcher based on Nguyen Dat Anh[6] was used for data collection. All nurses in the three ICU departments were invited to participate (n = 160). The questionnaire consisted of the following parts:

Demographic information. The demographic part had six items about the nurse's personal characteristics including age, gender, marital status, highest education level, and working experience in ICU.

Skills of the ICU nurses. The ICU nurses' skills were explored through nine dimensions of skills with 14 items included skills related to *patient care* (2 items), *emergency situation* (4 items), *respiratory therapist* (1 item), *arterial and intravenous lines* (1 item), *ventilator management* (1 item), *life support* (1 item), *cardiac rhythms* (1 item), *renal failure* (1 item), *and respiratory failure* (1 item). The items were based on Nguyen Dat Anh.[7] Responses to these items ranked from 1 (very poor) to 5 (very good). The range of each skill level was simply calculated by dividing the range score of 1-5 with numbers of range, obtaining three levels: low (1.00-2.33), moderate (2.34-3.67), and high (3.68-5.00) levels.

Attitudes of the ICU nurses. The nurses were asked about their attitude towards patient care in ICU. The six items for assessment of attitude towards patient safety in intensive care units were developed based on the Ministry of Health Vietnam.[6] The items included question regarding accurate patient problem identification, surgical safety, medication safety, infectious control and prevention, risk prevention, and fall prevention. Responses to these items raked from 1 (very poor) to 5 (very

good) and the attitude level was interpreted from the mean score using the same criteria as those for skills: low (1.00-2.33), moderate (2.34-3.67) and high (3.68-5.00) levels.

Validity and Reliability: The content validity of the three parts of the questionnaire was evaluated by three Vietnamese experts who were two clinical instructors and a nurse supervisor working at ICU Hue Central Hospital. The researcher then used the Content Validation Index for items (I-CVI) to evaluate, modify or delete items. The result showed that the I-CVI of each item was 1.00. It means that all items of the questionnaire have been agreed upon by all experts. The reliability testing was conducted in 30 nurses working at a department that had a similar job as ICU of the Hue Central Hospital. The pilot study showed that Cronbach's alpha value of the 14-item skill questionnaire was 0.94 and Cronbach's alpha values of 6-item attitude questionnaire was 0.95.

Data collection: Ethics approval was obtained from the Khon Kaen University Ethics Committee for Human Research, Thailand (HE 622194) and the Institutional Ethics Committee of Hue University of Medicine and Pharmacy, Vietnam (H2019/392). After the permission from the director of Hue Central Hospital and the head nurses of the three intensive care departments, the questionnaires with blank envelops were distributed to ICU nurses by the head nurses. Participation was voluntary. Participation confidentiality was assured to ensure that the responses were anonymous and kept confidential. Completed questionnaires were returned via sealed envelopes in a safety box in the meeting room of each department. After two weeks, the researcher returned to each department to collect questionnaires from the box. Data were collected during October to November 2019.

Data analysis

All 160 questionnaires were returned and completed (100% response rate). Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 23.0. Demographic data were analyzed using frequency and percentage. Scores of nursing skills and attitudes were analyzed by mean and standard deviation. The assumptions of analysis of variance (ANOVA) were met. The test of normality and homogeneity of variance indicated normal distribution and equal variance of the skills and attitude scores of each ICU department. One-way ANOVA was used to compare the means of skills and attitudes among nurses in different ICU departments

Results

More than half of ICU nurses were aged 25 to 34 (56.8%) and female (78.0%). Most of them were married (70.5%) and graduated in internal nursing level (38.5%). Many of them had working experiences more than 5 years (70.0%)

Overall mean score of ICU nurses' skills was at a high level ($\bar{x}$= 4.14, SD = 0.54). Overall mean scores of nurses' skills of General ICU, Pediatric ICU, and Cardiovascular ICU were at high levels ($\bar{x}$ = 4.28, SD = 0.49, $\bar{x}$= 4.01, SD = 0.54, $\bar{x}$= 4.08, SD = 0.56, respectively). Thirteen out of the 14-item skill questionnaire had mean scores at high levels. Only the item *taking care of patients with electric shock* was at a moderate level ($\bar{x}$= 3.62, SD = 0.99) (Table 1).

Table 1 Mean, SD., and level of skills of nurses in each ICU

ICU Skills	General ICU			Pediatric ICU			Cardiovascular ICU			Overall		
	$\bar{X}$	SD	Level	$\bar{X}$	SD	Level	$\bar{X}$	SD	Level	$\bar{X}$	SD	Level
Patient care												
1. I am able to take care of patients with gastrointestinal bleeding.	4.16	0.73	H	4.00	0.65	H	3.49	0.94	M	3.86	0.86	H
2. I am able to take care of comatose patients.	4.18	0.71	H	3.50	0.75	M	3.72	1.02	H	3.85	0.89	H
Emergency situation												
3. I am able to do resuscitation for patients with circulatory respiratory arrest.	4.23	0.76	H	4.06	0.65	H	4.35	0.67	H	4.24	0.71	H
4. I am able to take care of patients with anaphylaxis.	4.25	0.72	H	4.06	0.65	H	4.29	0.61	H	4.23	0.66	H
5. I am able to take care of patients with acute pulmonary edema.	4.08	0.80	H	3.68	0.73	H	3.95	0.74	H	3.94	0.77	H
6. I am able to take care of patients with electric shock.	4.10	0.87	H	3.68	0.95	H	3.15	0.92	M	3.62	0.99	M
Respiratory therapist												
7. I am able to take care of patients on ventilated machines.	4.31	0.65	H	4.00	0.82	H	3.98	0.80	H	4.11	0.76	H
Arterial and intravenous lines												
8. I am able to take care of patients with central venous lines.	4.33	0.65	H	3.94	0.85	H	4.48	0.59	H	4.31	0.70	H
Ventilator management												
9. I can check the mechanical activity of the ventilator when the patient is on mechanical ventilation.	4.48	0.54	H	4.32	0.59	H	4.43	0.68	H	4.48	0.60	H
Life support												
10. I am able to care for patients with feeding through gastric lavage.	4.62	0.49	H	4.32	0.68	H	4.43	0.64	H	4.48	0.60	H
Heart attack												
11. I am able to take care of heart attack patients.	3.92	0.69	H	3.35	0.81	M	3.98	0.80	H	3.82	0.79	H
Renal failure												
12. I am able to take care of patients with acute renal failure.	4.03	0.82	H	3.59	0.82	M	3.58	0.95	M	3.76	0.89	H
Respiratory failure												
13. I am able to take care of intubated patients.	4.43	0.56	H	4.24	0.65	H	4.40	0.73	H	4.37	0.65	H
14. I am able to take care of patients with respiratory failure.	4.25	0.74	H	4.06	0.78	H	4.11	0.79	H	4.15	0.77	H
Overall of each ICU	4.28	0.49	H	4.01	0.54	H	4.08	0.56	H			
Overall	$\bar{X}$= 4.14, SD = 0.54 (H)											

Note: H = High, M = Moderate

Table 2 Mean, SD., and level of attitudes of nurses in each ICU

Attitudes of ICU Nurses	General ICU			Pediatric ICU			Cardiovascular ICU			Overall		
	$\bar{X}$	SD	Level	$\bar{X}$	SD	Level	$\bar{X}$	SD	Level	$\bar{X}$	SD	Level
1. I think it is important to accurately identify patients, avoiding confusion when providing services at ICU	4.44	0.74	H	4.24	0.65	H	4.37	0.72	H	4.37	0.71	H
2. I think it is important for surgical safety, procedures in the ICU	4.56	0.67	H	4.26	0.62	H	4.42	0.68	H	4.44	0.67	H
3. I think it is important to be safe in using medicine at ICU	4.62	0.55	H	4.21	0.73	H	4.49	0.64	H	4.48	0.64	H
4. I think it is important to prevent and control hospital infections at ICU	4.57	0.62	H	4.18	0.58	H	4.37	0.72	H	4.41	0.67	H
5. I think it is important to prevent risks, errors caused by exchanging and communicating misinformation between medical staff at ICU.	4.57	0.62	H	4.26	0.62	H	4.40	0.63	H	4.44	0.63	H
6. I think it is important to prevent people from falling at ICU	4.52	0.70	H	4.12	0.73	H	4.48	0.64	H	4.42	0.70	H
Overall of each ICU	4.53	0.57	H	4.19	0.60	H	4.37	0.59	H			
Overall	$\bar{X}$= 4.39, SD = 0.59 (H)											

Table 3 The differences of skills and attitudes among nurses working in the three ICUs (N=160)

		Sum of Squares	df	Mean Square	F	Sig.
Skills	Between Groups	2.685	2	1.343	4.301	.015*
	Within Groups	49.014	157	.312		
	Total	51.699	159			
Attitudes	Between Groups	2.502	2	1.251	3.536	.031*
	Within Groups	55.542	157	.354		
	Total	58.044	159			

*significant at p<=.05

Table 2 describes the descriptive statistics of attitudes. Overall mean score of attitudes was at a high level ($\bar{X}$= 4.39, SD = 0.59). Overall mean scores of attitudes of nurses in General ICU, Pediatric ICU, and Cardiovascular ICU were at high levels ($\bar{X}$ = 4.53, SD = 0.57, $\bar{X}$= 4.19, SD = 0.60, $\bar{X}$= 4.37, SD = 0.59, respectively). All six items of attitudes were at high levels both in overall and each department. The item of the attitude *towards medication safety* had the highest overall mean score (mean = 4.48, SD=0.64).

The nurses who were working in General ICU (N = 61), Pediatric ICU (N = 34) and Cardiovascular ICU (N = 65) had statistically different skills and attitudes [$F(2,157) = 4.301$, $p < .05$] (Table 3).

Discussion

The study results indicated that overall mean scores of skills and attitudes of all ICU nurses and ICU nurses in each department of General ICU, Pediatric ICU, and Cardiovascular ICU were at high levels. It could be postulated that most of the nurses had work experiences more than 5 years and gained considerable experience to provide higher-quality care. Patient care units with more experienced nurses had lower medication errors and lower patient fall rates.[12] A different reason is that the hospital provides continuous one-week training courses for new employees. Short-term development training courses help to improve the quality of patient care for all nurses throughout the hospital. The hospital's nursing unit always checks and reminds the nurses to follow the procedures in the care of patients. In addition, nurses in the hospital were evaluated their knowledge and practice by a written test and practice exams every year. This is confirmed by the findings in the study of Meretoja et al.[13] The author found that time spent on work was positively correlated with the overall level of self-reporting. In addition, Pitayavata-nachai[14] and Gillespie et al.[15] analyzed the factors affecting skills, attitudes and values nursing and found that work experience significantly affects nursing skills, attitudes and values. The findings in this study are also supported by the study of Vu, D.V.[16] which conducted among nurses at a general hospital in Vietnam. Overall skills, attitudes and values increased gradually with years of experience. However, it has been argued with the results of Safadi[17] that the number of experience years since graduation in relation to competency level was not found to be significantly different in any skill.

Through 14 assessments on the skills of nursing, the ICU nurses perceived their skills of feeding through gastric tube at the highest mean score. Patients in ICU are often comatose, life-threatening, and on ventilator, resulting in difficulty swallowing and needed to rely on enteral feeding. Therefore, the technique of gastric tube placement and feeding is considered a routine technique in ICU and ICU nurses have experienced to do this skill. The skill of taking care patients with electric shock had the lowest mean score. This can be explained that patients with electric shock were rarely admitted in the hospital in Vietnam.[18] Therefore, nurses had less experience of taking care this group of patients, especially nurses in Cardiovascular ICU. In addition, the skills of taking care of patients with gastrointestinal bleeding and taking care of patients with acute renal failure were at moderate for nurses in Cardiovascular ICU due to these patients were rarely admitted in this unit. Likewise, Pediatric ICU had few comatose patients, patients with heart attack, and patients with acute renal failure, so that nurses had moderate levels of nursing skills for these patients.

The ICU nurses expressed their overall and each item of attitude towards caring patients with critical illness at high levels. This might be a reflection of concerning about patient safety so that nurses took it serious during their work in critical situations in the ICU department. In the same way, because of having working experiences more than 5 years, ICU nurses who have experiences are proficient at work are very smart at learning experiences about typical events that will happen in specific situations and are adapted to respond to

each situation. A study by Hoseini, Manzari, and Khaleghi[19] showed that nurse's attitude and total work experience as a nurse had a significant direct correlation. Another reason is that critical care nursing is focused on saving the life of individual patient and safety attitudes of ICU nurses impact on the quality of patient care outcomes.[20] Therefore, ICU nurses perceived high levels of attitudes towards patient safety in this study. The present study also indicated that nurses viewed the importance of using medicine safely in the ICU department at a high level with the highest mean score. This may be due to most ICU patients were treated with various high alert drugs. Medication errors (MEs) and adverse drug events (ADEs) are a common and significant concern in the ICU since they represent a leading cause of iatrogenic errors in the critically ill population.[21] Therefore, ICU nurses are aware of this risk.

The present study indicated that nurses who were working in General ICU, Pediatric ICU and Cardiovascular ICU had different skills and attitudes. Nurses in General ICU had the highest mean scores of skills and attitudes. Although each ICU of the Hue Central Hospital has always received serious cases not only from the Thua Thien Hue province, but also from the central provinces and the highlands, this difference may be due to the type of illness of the patient. General ICU admitted patients with various types of disease unlike patients with specific diseases in Cardiovascular ICU and Pediatric ICU. Therefore, General ICU nurses have more experiences in performing critical care skills and making decisions in critical situations needed for patient safety. This finding has been supported with results in several studies that found the differences of nurses' abilities in different areas.[22,23] However, this result is contrary to the Tam's study[24] which found that there was no difference between the capabilities of nursing and the current working area.

Implications

The study findings contribute to the growing body of knowledge concerning ICU nurses' skills and attitudes. Nurse administrators should continuously enhance skills and attitudes of nurses working in ICU to improve the quality of patient care. Although some skills, such as skill of taking care of comatose patients, patients on ventilated machines, and patients with acute renal failure, are rarely practiced in Pediatric ICU and Cardiovascular ICU, nurses should develop their skills for taking care of some patients with those situations. In-service education, on-the job-training, and supervision should be implemented continuously to enhance ICU nurses' competencies. Moreover, these activities will enhance the positive attitude of ICU nurses and will prevent medical errors in the process of caring for patients in ICU. Nursing education should arrange nursing practicum in ICU departments for nursing students to practice critical care skills and develop positive attitude towards patients with critical illnesses and intensive care.

This study only provided preliminary information on the skills and attitudes of ICU nurses in Hue Central Hospital, Vietnam. Therefore, future research may explore factors related to skills and attitude of ICU nurses at Hue Central Hospital such as educational level and training, inter-professional collaboration, and workload. In addition, high levels of skills and attitudes reported by the ICU nurses

might not reflect the accurate measurement. Future study aimed to develop a standardized instrument to assess skills and attitudes of ICU nurses in Vietnam is needed.

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