KNOWLEDGE AND ASSOCIATED FACTORS TOWARDS PATIENT SAFETY AMONG NURSES WORKING AT HANOI OBSTETRICS AND GYNECOLOGY HOSPITAL IN 2021

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ABSTRACT

Objective: To describe the knowledge and to identify associated factors towards patient safety among nurses working at Hanoi Obstetrics and Gynecology Hospital in 2021. Methodology: A cross-sectional descriptive study was conducted on 346 nurses working at Hanoi Obstetrics and Gynecology Hospital from January 1, 2021 to June 31, 2021. The data were collected from nurses by using a questionnaire which based on patient safety guidelines published by Ministry of Health. Results: The nurse's level of good knowledge towards patient safety was 65.9%. Only age, educational qualification, having training on patient safety, taking care of patients directly were factors significantly associated with knowledge towards patient safety. In detail, nurses who were more than 40 years olds had good knowledge towards patient safety was 3.47 times compared with the younger group; nures with postgraduate degree had good knowledge of patient safety was more than 2.9 times compared with the group of nurses with lower qualifications; Nurses who had been patient safety training and who took care of patients directly had good knowlegde of patient safety were 1.8 times and 2.56 times in comparison with the group of nurses without patient safety training and did not take care of patients directly. Conclusion: The percentage of nurses with good knowledge of patient safety was low. Factors related to patient safety knowledge of nurses included: age, education qualification, having training in patient safety and directly taking care of patients. Therefore, it is necessary to perform continuing education and improve the capacity of nurses on patient safety, especially prioritizing infection control.

Keywords: Patient safety, knowledge, nursing, Hanoi Obstetrics and Gynecology Hospital.

1. INTRODUCTION

Patient safety is an important standard in the healthcare field. Applying a safe approach towards building a reliable service delivery system. Lack of patient safety in health care is reported to be the cause of 64 million Disability Adjusted Life Years (DALY) deaths each year globally.

Patient safety is perceived as a rising essential issue in healthcare field, and the increase in the numbers of patient safety incidents leads to a challenge for hospital management. According to the researches, the incidence of adverse events because of unsafe care is one of the 10 leading causes of mortality and disability globally [1]. The evidence showed that approximately

44,000 to 98,000 Americans die each year as a result of medical errors in the United States. This is similar to the total death from traffic accidents, cancer, and AIDS. The financial burden becase of medical error estimated 40 to 50 billion dollars in the United States [2]. In Vietnam, the rate of surgical site infection in patients after surgery at some hospitals ranged from 4.1% to 7.9%, in which the rate of surgical site infection is high in the group of patients undergoing small bowel surgery (19.5%); colon surgery (11%) and stomach surgery (7.9%) [3], [4]. Nurses are an important part of the hospital. They are the most and most frequent contact with patients. The quality of the relationship between nurses and patients has been shown to directly affect the quality of treatment and is an important factor for the effectiveness of patient care practice [5], [6]. Every day, thousands of clients come for medical examination and treatment at Hanoi Obstetrics and Gynecology Hospital. The question is: "What is the nurse's knowledge of patient safety at the hospital?" and "Are there any factor that influence nurses' knowledge of patient safety?". So that, I conducted a study on "Knowledge and associated factors towards patient safety among nurses working at hanoi obstetrics and gynecology hospital in 2021" with the objective: to describe the knowledge and to identify associated factors towards patient safety among nurses working at Hanoi Obstetrics and Gynecology Hospital in 2021.

2. SUBJECTS AND METHODS

2.1. Setting and research period

- Research period: From January 1, 2021 to June 31, 2021. The data collection period is from January 2021 to March 2021

- Setting: Hanoi Obstetrics and Gynecology Hospital.

2.2. Subjects

Research subjects: nurses working at Hanoi Obstetrics and Gynecology Hospital (excluding midwives and technicians).

- Inclusion criteria:

+ Full-time nurses or nurses have a labor contract more than 6 months,

+ Agreeing to participate in the study

- Exclusion criteria: Nurses absencing in the hospital during the data collection period such as:

sick, maternity leave, training at the other place for more than 1 month.

2.3. Methods

2.3.1. Research design

Cross-sectional descriptive study

2.3.2. Sample size and sampling method

All hospital nurses were invited to participate in the study. They have had provided basic information such as the design, purpose and significance of the study, as well as their rights to participate. The anonymity of the participants was maintained throughout the study. They were given written informed consent prior to enrollment in the study. A total of 346/420 (minus 30 participants in the pilot study) nurses agreed to participate in the study. So that, the sample size was 346.

2.3.3. Data collection

The data was collected by using self-administering questionnaire. The questionnaire was developed based on patient safety guidelines issued of the Ministry of Health [8].

Evaluation criteria:

- General knowledge toward patients safety: for each correct answer, the subject gets 1 point.

- Knowledge of each error group: the subjects were assessed having good knowledge if they listed all relevant options according to the patient safety manual of the Ministry of Health

- Subjects were assessed having good knowledge if they answered correctly 24 questions (including questions about 6 groups of patient safety error and questions to assess general knowledge, knowledge of prevention)

2.3.4. Data analysis

Data was checked, coded, and entered into Epi-Data software, and then it was exported to SPSS software for statistical analysis.

Descriptive statistics were summarized by using frequencies, percentages, tables, figures, and texts. Bivariable and multivariable logistic regression analyses were applied to identify variables associated with knowledge towards patient safety

2.3.5. Ethics consideration

The study was permitted under Decision No. 348/GCN-HDDD of the Ethics Committee of Nam Dinh University of Nursing and had permission of Hanoi Obstetrics and Gynecology Hospital. Data were collected after the ethical clearance was received.

An informed consent was obtained to ensure that the subjects voluntarily participated in this study. Participants were also informed that they have the right to withdraw from the study at any phase

3. RESULTS

3.1. General information of subjects

Table 1. Sociodemographic characteristics of study participants (n=346)

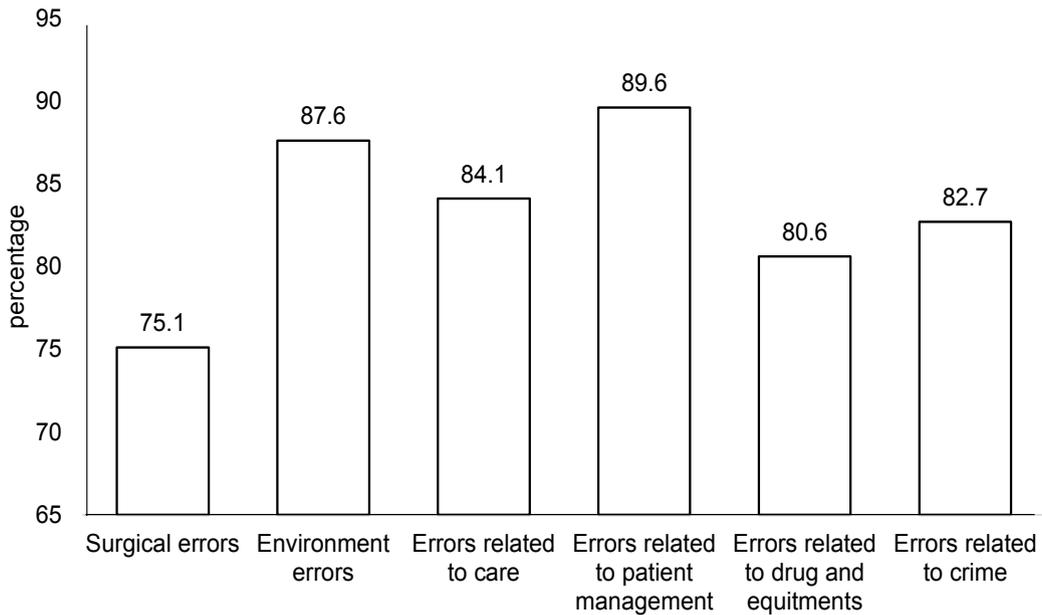| Characteristics	Frequency	Percent (%)
Gender		
Male	30	8.7
Female	316	91.3
Age		
<30 years old	87	25.1
30-40 years old	221	63.9
>40 years old	38	11
Marital status		
Single	42	12.1
Married	293	84.7
Divorced	11	3.2
Education qualification		
Undergraduate	103	29.8
Graduate	127	36.7
Post graduate	116	33.5

Table 1 showed that the majority of the study subjects were female (91.3%). Two-thirds of the subjects were between the ages of 30-40 years old. The majority of the subjects were married (84.7%). Regarding to the educational qualification, the number of nurses at different levels is relatively equal.

Table 2. Characteristics of working conditions of study participants (n=346)

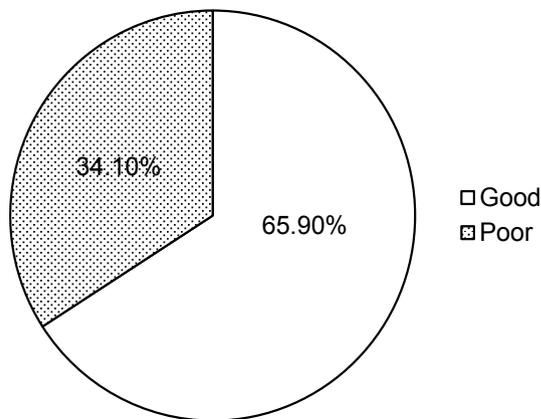| Characteristics	Frequency	Percent (%)
Working unit		
Subclinical (laboratory, nutrition, diagnostic imaging, ...)	99	28.6
Clinical (Newborn, assisted reproduction, voluntary obstetric examination, delivery, ...)	190	54.9
Functions (nursing Department, administration, family planning room, ...)	57	16.5
Working experience		
<5 years	77	22.3
5 – 10 years	171	49.4
>10 years	98	28.3
Length of working hours per week		
<40 hours/week	224	64.7
40 – 48 hours/week	105	30.4
>48 hours/week	17	4.9
Having training on patient safety		
No	64	18.5
Yes	282	81.5
Error was reported		
0	298	86.1
1-5	48	13.9
Taking care patient directly		
No	113	32.7
Yes	233	67.3

More than half (54.9%) of the study subjects worked in the Clinical Departments (Newborn, assisted reproduction, voluntary obstetric examination, delivery...). 224(64.7%) nurses had a Length of <40 working hours per week. 81.5% of subjects received training on patient safety. Most of the subjects reported no incidents occurring in the hospital.

3.2. Knowledge about patient safety of nurses at Hanoi Obstetrics and Gynecology Hospital in 2021.

Figure 1. Good knowledge of research subjects through 6 groups of error (n=346)

The results of knowledge assessment through 6 groups of error showed that most of the research subjects have good knowledge. Research subjects with good knowledge about surgical errors had the lowest (75.1%), the highest in the group of errors related to patient management (89.6%).

Figure 2. Research subjects' knowledge of patient safety (n=346)

In the study, 65.9% of the subjects had good knowledge about patient safety.

3.3. Factors associated to the patient safety knowledge of nurses at Hanoi Obstetrics and Gynecology Hospital in 2021

Table 3. Knowledge of research subjects and some associated factors (n=346)

Characteristics	Knowledge		OR	
	Good	**Poor**	**(95%CI)**	**p**
	Frequency (%)	Frequency (%)		
Age				
<30 years old	57 (65.5%)	30 (34.5%)	1	
30-40 years old	138 (62.4%)	83 (37.6%)	0.88 (0.52-1.47)	0.08
>40 years old	33 (86.8%)	5 (13.2%)	3.47 (1.19-10.12)	0.005
Education qualification				
Undergraduate	60 (58.3%)	43 (41.8%)	1	
Graduate	75 (59.1%)	52 (40.9%)	1,03 (0.61-1.75)	0.1
Post graduate	93 (80.2%)	23 (19.8%)	2,9 (1.56-5.39)	0.03
Having training on patient safety				
Yes	35 (54.7%)	29 (45.3%)	1,8 (1.03-3.14)	0.02
No	193 (68.4%)	89 (31.6%)		
Taking care patient directly				
Yes	58 (51.3%)	55 (48.7%)	2,56 (1.58-4.14)	0.03
No	170 (73%)	63 (27%)		

The results showed that age, educational qualification, having training on patient safety, taking care of patients directly were factors significantly associated with knowledge towards patient safety. In detail, nurses who were more than 40 years olds had good knowledge towards patient safety was 3.47 times compared with the younger group; nures with postgraduate degree had good knowledge of patient safety was more than 2.9 times compared with the group of nurses with lower qualifications; Nurses who had been patient safety training and who took care of patients directly had good knowlegde of patient safety were 1.8 times and 2.56 times in comparison with the group of nurses without patient safety training and did not take care of patients directly.

4. DISCUSSION

4.1. Knowledge about patient safety of nurses at Hanoi Obstetrics and Gynecology Hospital in 2021

The present study was done to assess the knowledge and associated factors towards patient safety among 346 nurses working at Hanoi Obstetrics and Gynecology Hospital.

The subjects were mainly female, this is completely consistent with the reality. Because the specific profession of nursing attracts more female than male. Moreover, in Vietnamese hospitals, the majority of nurses was female [9]. The important role of nurses is a key link in health care activities and is the key to improving quality and patient safety [10] . In our study, The nurse's level of good good knowledge towards patient safety was 65.9%. The finding of this study is comparable with other studies conducted in different parts of the world. It is consistent with the study conducted in VietNam of Nguyen Xuan Thiem in 2016 (70.9%) but higher than a study conducted in Saudi Arabia [11]. This difference might be due to difference in mode of delivery of different educational and training programs and, developmental status of the country like the presence of separate patient safety units in their stitution. The study also showed that 89.3% of the subjects knew about the medical troubleshooting process, this result is higher than the study in Saudi Arabia when it said that 73.8% of medical students have a good knowledge of the medical problem [11]. It has been explained that we conducted study on nurses with many years of work experience leading to them having more clinical practice than the group of students. On the other hand, our research results about knowledge of 6 errors groups classified according to WHO were higher than the findings of Hamdi Almaramhy (60.7%) [11]. In fact, prevention of medical errors is an important task in nursing training. Because nurses have most contact time with patients during the nursing process and medical treatment at the hospital.

4.2. Factors associated to patient safety knowledge of nurses at Hanoi Obstetrics and Gynecology Hospital in 2021

The results showed that nurses who were more than 40 years olds had good knowledge towards patient safety was 3.47 times compared with the younger group (OR = 3.47; 95%CI: 1.19-10.12; p <0.05). This result is similar to the study of Nguyen Xuan Thiem, with the group of nurses aged 25 and older all had higher knowledge than nurses under 25 years old, specifically groups 25-29, 30-39, 40-49, >50 years old has higher knowledge 2; 2.5; 2.8; 1.7 times compared with the group <25 years old (p <0.05) [12]. It can be explained that in practice, older nurses with longer working experience should have better patient safety knowledge. In terms of education qualification, nures with postgraduate degree had good knowledge of patient safety was more than 2.9 times compared with the group of nurses with lower qualifications (OR=2,9; 95%CI: 1.56-5.39; p <0.05). This result is also similar to the result of Nguyen Xuan Thiem, when the nursing group with post-graduate level of knowledge is 4.8 times higher than the control group. In fact, it can be explained that in the group of postgraduate nurses, most of them are nurses with professional competence and good work experience, so they have good knowledge of patient safety higher than others. In addition, according

to the International Nursing Association, nurses will have more advantage if they have having a higher degree of nursing, especially bachelor's degree in nursing, master's degree. They will be trained more in some clinical skills than other groups of subjects, thereby the risk of errors will be lower than other groups [13]. Nurses who had been patient safety training and who took care of patients directly had good knowlegde of patient safety were 1.8 times and 2.56 times in comparison with the group of nurses without patient safety training and did not take care of patients directly. It can be seen the importance of training to improve knowledge and practice of patient safety for nurses.

4.3. Limitation of the study

The accomplishment of the present study was not without limitations. Despite this is a critical topic, the level of knowledge associated factors towards patient safety among nurses were not adequately assessed in Vietnam, even in different countries globally. In addition, the instrument of study was developed based on the Patient Safety Document issued by the Ministry of Health in 2014. There has been no research done using the instrument. These has affected the discussion section of the present study. The knowledge surveyed is general knowledge about patient safety, not going into specific content.However, hopefully this study could minimize such problem being a baseline for other researchers who will be willing to undertake the study on this topic.

5. CONCLUSION

In the present study, only more than half (65.9%) of the nurses had good knowledge and towards patient safety. age,

educational qualification, having training on patient safety, taking care of patients directly were factors significantly associated with knowledge towards patient safety. We suggest educational programs and training on patient safety may need to take place for nurses to improve the capacity of nurses, especially giving priority to infection control.

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