Causes of Incidents on the Wards of Nursing Students
สาเหตุการเกิดอุบัติการณ์ความผิดพลาดขณะฝึกปฏิบัติงานบนหอผู้ป่วย ของนักศึกษาพยาบาล

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Abstract

The objective of this qualitative research was to study the causes of incidents on the wards of nursing students. Participants have conducted 33 purposive samplings in the hospital where had students experience in causes of incidents, included 22 nursing preceptors of 2 hospitals, 8 nursing educators and 3 nursing students who had experienced operative mistakes. Data were collected by using focus groups and in-depth interviews. Data were analyzed by using content under Benner's concept (1994). The research results revealed three themes relating to the causes of incidents on the wards of nursing students: wrong experiences, preventable causes, and collaboration to prevent mistakes (1) The wrong experiences were often caused by drug administration, infection, and communication (2) The causes of mistakes while performing the nursing intervention on nursing units were preventable. Those causes were from the lack of nursing students' readiness including knowledge, physical, skills, and experiences (3) The collaboration to prevent mistakes was the guideline for risk prevention for nursing instructors, nursing preceptors, and nursing students to implement. The guideline for risk prevention included the provision of nursing instructors or nursing preceptors every day to closely supervise nursing students and the preparation of nursing instructors, nursing preceptors, and nursing students for knowledge, practical skills, and the use of new equipment. In addition, the standards involved learning from past mistakes together and introducing appropriate experiences for each level of nursing students.

Keywords: causes of incidents, practicing on the ward, nursing students

บทคัดย่อ

การวิจัยครั้งนี้เป็นการวิจัยเชิงคุณภาพ มีวัตถุประสงค์เพื่อศึกษาสาเหตุของการเกิดอุบัติการณ์ความผิดพลาดขณะฝึกปฏิบัติการบนหอผู้ป่วยของนักศึกษาพยาบาล ผู้ให้ข้อมูลจำนวนทั้งสิ้น 33 คน คัดเลือกแบบเจาะจง ในโรงพยาบาลที่มีนักศึกษาที่ประสบการณ์เกี่ยวกับอุบัติการณ์ความผิดพลาด ได้แก่ อาจารย์พี่เลี้ยงจำนวน 22 คน จากโรงพยาบาล จำนวน 2 แห่ง อาจารย์พยาบาล จำนวน 8 คน และนักศึกษาพยาบาลที่มีประสบการณ์การทำหัตถการผิดพลาด จำนวน 3 คน เก็บรวบรวมข้อมูลด้วยวิธีการสัมภาษณ์กลุ่มและการสัมภาษณ์เชิงลึก การวิเคราะห์ข้อมูลใช้วิเคราะห์เนื้อหา ตามแนวคิดของเบนเนอร์ (1994) ผลการวิจัยพบว่า สาเหตุการเกิดอุบัติการณ์ความผิดพลาดขณะฝึกปฏิบัติงานบนหอผู้ป่วยของนักศึกษาพยาบาลนั้น ผู้ให้ข้อมูลสะท้อน ความรู้สึกและความคิดเห็นสรุปเป็นประเด็น ดังนี้ (1) ความผิดพลาดที่เกิดขณะฝึกปฏิบัติการพยาบาลบนหอผู้ป่วย ส่วนใหญ่มักเกิดจากการบริหารยา การติดเชื้อ การรายงาน และการสื่อสาร (2) สาเหตุของความผิดพลาดที่เกิดขณะฝึกปฏิบัติการพยาบาลบนหอผู้ป่วยเกิดจากความไม่พร้อมของนักศึกษาด้านความรู้ ด้านร่างกาย ด้านทักษะ และประสบการณ์ (3) แนวทางเพื่อการป้องกันความเสี่ยงจากการฝึกปฏิบัติการพยาบาลบนหอผู้ป่วย ได้แก่ ควรจัดให้มีอาจารย์นิเทศหรืออาจารย์พี่เลี้ยงทุกวันเพื่อดูแลนักศึกษาอย่างใกล้ชิด และเตรียมความพร้อมทั้งอาจารย์พยาบาลและอาจารย์พี่เลี้ยง และนักศึกษาในประเด็นเกี่ยวกับ ความรู้ ทักษะปฏิบัติ การใช้อุปกรณ์เครื่องมือใหม่ ๆ รวมทั้งควรจัดให้มีการเรียนรู้ความผิดพลาดที่ผ่านมาร่วมกัน และการจัดประสบการณ์ที่เหมาะสมกับนักศึกษาแต่ละชั้นปี

คำสำคัญ: สาเหตุการเกิดอุบัติการณ์ ฝึกปฏิบัติงานบนหอผู้ป่วย นักศึกษาพยาบาล

Introduction

Nursing is a profession that requires practice directly to life with the purposes of healthy of people through caring using science and art of nursing, midwifery, and evidence-based practice. The goal of nursing care is to provide the holistic care for individual, family, and community in all health conditions and life span. With respect to the nursing practice, professional nurses must be aware of and take into account the safety of their patients a priority.

World Health Organization (World Health Organization (WHO), 2009, p. 22) defines patient safety as the absence of preventable harm to a patient during the process of health care and reduction of risk of unnecessary harm associated with health care to an acceptable minimum. An acceptable minimum refers to the collective notions of given current knowledge, resources available and the context in which care was delivered weighed against the risk of non-treatment or other treatment. Patient safety also includes avoidance, prevention, and remedial treatment for injured patients or adverse outcomes leading to death (Vincent, 2010). Adverse events can be classified into 5 categories: (1) diagnosis and treatment of errors (2) the occurrence of complications related to surgery and procedures (3) hospital acquired infection (4) adverse drug events (5) other events such as communication failure between the

provider and the patient, inadequate and unready for use of equipment and equipment, and the patient's environment (Southwick, Craneley & Hallisy, 2015); Lohlekha (2012) also found that the factor induced a trial is a lack of good communication between the physician and patient and relative. The health care providers do not clearly explain and provide information and does not involve patients in making medical decisions. (Boonrawdrak, Khumyoo & Wongsuttitham, 2019). Mistakes in treatment not only injurie, disable or even lose their lives but also affect health care providers. It may cause feelings of loss of self-worth and stress of nurses. Then, nursing professional is not trusted by clients. In addition, the clients may sue the public health service for damage or health care providers for the medical errors. The National Health Security Office reported on the compensation in the events of clients encountering damages arising from healthcare services. (According to section 41). In fiscal year 2014, the total compensation amount is 218.44 million Thai baht from the complainants for compensation of 931 cases.

WHO (2011) recognizes the importance of the safety of the service recipient as it affects the lives of clients and service providers. Subsequently, the WHO drives a patient safety course for students to implant and raise awareness of the principle of patient safety in nursing practice because nursing students have insufficient skills and experience in nursing practice and may make risk for nursing practice (National Health Security Office, 2014). Although they have enrolled in theory and nursing laboratory courses before the actual practice, there is still a chance for an incidence or an adverse event. Medication administration errors in nursing units by nursing students had been reported in the past. For example, in 1998, fifty six percent of nursing students from Ramathibordi Nursing School used to make mistakes during clinical practice. Main potential causes of mistakes were lack of attention, skills and experiences (Summavaja, 1998). In 2018, the 3rd and 4th years nursing students reported the incidents of 31 cases from medication administration errors, sharp objects contaminated with blood or secretions and exposure to secretions. These accidents are caused by lack of skills, experiences, knowledge, and awareness on patient safety. The curriculum administration committee reported that the incident of making practical errors in nursing students including needle stick, exposure to secretions, and drug administration errors in every academic year, which in turn affect the prolonged hospitalization of some patients the graduation time of some students as well (Boonmee, Mahamitrwongsan & Kavila ,2018).

Consequently, the researchers who are the instructors of the curriculum recognize the importance of studying the causes of incidents on the wards of nursing students. The purpose of the exploring is to use the results of to improve, plan, and develop the learning and teaching aspects that is consistent with the learners in order to prevent further risks and losses.

Research objectives

To study the causes of incidents on the wards of nursing students.

Research methodology

This study is a qualitative research using Martin Heidegger's phenomenology to conduct

hermeneutic phenomenological studies. This concept believes that people are important to education. Each individual has feeling, thinking, and giving meaning according to the thoughts of each individual which are differ from others (Leonard, 1989).

The key informant selected through purposive sampling. The informants comprised 3 groups: (1) a group of 22 nurse preceptors from 2 hospitals, (2) a group of 8 nursing instructors and (3) a group of 3 representatives of nursing students who had experiences of incorrect procedures. The total targets were 33 informants of all the 50 participants in the operational stage. They were unforced and willing to provide research information without stress or stigma from having those experiences.

Data were collected by using focus group discussion and in-depth interview, participatory observation and document study, semi-structured interview covering causes of errors occurring during performing nursing procedures and guidelines for preventing future errors. Quantitative data were Personal Information Form including gender, age and level of education.

The researchers sent a developed semi-structure questionnaire to three experts to check the content validity and the clarity of the language used. After improvement following the suggestion of the experts, the researchers piloted the questionnaires with the 2 nursing instructors who had the same characteristics of the key informants to test the comprehensive of the meaning and the clarity of the questionnaires consistent with the objectives. Finally, the researchers improved before using in the research.

Research ethics

This article was an excerpt of the research titled: The Model for the Development of Risk Management Capability for the Patients Safety in Nursing Students. The research project was certified by Human Ethics Committee; No. 98-2563 dated 19 October 2020. The key informants participating in this research were voluntary and can be withdrawn from research at any time without any adverse effect on them. The report of information was presented as a whole. Research information were kept confidential and destroyed within 1 year after the results were published.

Data collection

Data were collected by focus group technique in October 2020. Details are as follows:

1. The researchers sent official letters to the director of 2 hospitals for permission to collect information.

2. The researchers clarified details of data collection and information required by the human research ethics including signing the consent form to participate as a voluntary key-informant, requesting permission to record audio and record information about the events and reactions of the group. Informants can cancel the provision of information at any time. They can show no response to the question that makes them feel uncomfortable. The researchers have made an appointment with a place to make the 3 main informants groups feel convenient. The focus group interviews were conducted for 4 times. During the interviews, all informants, particularly the nursing students with experiences of incorrect procedures participated and responded the questions

without any stress or pressure. They also stated that they were willing to share their past experiences if it could minimize the future errors. The interview will be done until the information was saturated. The researchers sent the recorded data from the 1st to the 4th interviews back to the informants to check the correctness and completeness of contents and also confirmed the information needed to be disclosed.

Data analysis

The qualitative data were analyzed according to the Benner framework of interpretive phenomenology (Benner, 1994) through the following steps:

1) Understand the paradigm and dimensions of the paradigm cases starting with carefully reading the recorded data from the interviews; making observations, issues, meaning of the words or the sentences that the informant told in every step to comprehend all stories.

2) Thematic analysis must be conducted with the awareness of the interpretation, which are based on the basic of the research questions and the framework of the study and must be consistent with the information. Then, the researchers classified the interpretation into categories according to the study issues.

3) Transcription of the text from the tape recorded word-for-word after collecting the data.

4) Summarize the exemplars by considering issues, meaning of the word, response of the informant. Then, the researchers are able to summarize a whole story that can explain the meaning of that situation. Finally, the informants verify the accuracy, clarity and completeness of the information.

Trustworthiness

The trustworthiness is conducted as the followings:

1. Confirm the reliability of the information throughout the research process by checking the in-depth interviews and field recordings when an issue is found, the researchers will ask the informant to get mutual understanding.

2. Check for the accuracy, interpretation, and confirm the information by the key-informants.

3. Present research results using the words of the informants to verify truthfulness and clarity on all topics of analysis and reporting.

Results

The informants were totally 33 including 22 nurse preceptors, 8 nursing instructors. The majority of the informants were female (100%). Their ages were ranged from 40 to 55 years old and had more than 5 years of teaching experience. The 3 representative of nursing students who had experiences about faulty procedures were female with the ages over 20 years old. The results showed that the important issues related to the causes of incidents on the wards of nursing students included 3 main issues as follow:

1. Wrong experiences

2. Preventable causes

3. Collaboration to prevent mistakes

1. Wrong experiences

The study showed that the informants including the nurse preceptors, nursing instructors and nursing students gave details about the mistakes

occurred while practicing nursing on the ward including medical administration, infection, report and communication as follow:

1.1 Drug administration:

Nursing instructor: "Most of the students made mistakes about drug administration, which include contamination and wrong calculation. The student can't calculate the rule of three. They can remember the rights of medication administration. However, they don't follow those rights and unused caution prescription when practicing drug administration.

Nursing student: "Mostly, I've experiences of contaminating and calculating medicines. I think slowly and may not respond promptly to the instructor. There are many kinds of medicine; sometimes I don't remember how to mix the medicine. I have to write it down and try to be careful."

1.2 Infection

Beside drug administration error, it was found an error about infection that occurred while practicing on the ward.

Nurse preceptors: "On the ward, the students sustained needle stick injuries. They didn't use a sterile technique and reused the needles. They recapped the needles with their hands, and didn't use one hand technique. We need to remind the students on the ethical practice. The students have to concern that they will not use the stained items with other patients."

Nursing instructors: "The students were not careful when doing procedures which were often contaminated. They were not aware of the sterile technique. Some students did not wear gloves when caring for patients that were required to wear gloves, for example, patients with eczema. When touching patients, they did not wear gloves; while some students put on gloves and grabbed something around without carefulness.

Nursing students: "When doing procedures, sometimes the hands get hit accidently."

In addition, it was found that the errors frequently occurred while practicing nursing care on the ward

1.3 Report and communication

Nurse preceptors: "Students were not intense to ask or tell what they have faced with the patient. They told when asking to tell. They didn't tell precisely. Nowadays, students rarely write down. They use the phone to take pictures of the patient's history sheets. When asking anything, they look at the phone because they already took photos of data in the chart. That needs to be careful because patients' data are confidential."

Nursing student: "I was afraid to ask the instructors because I was afraid to get scolded and sometimes I found them busy. I was considerate.

The errors found while practicing nursing on the ward are procedures that nursing students have to practice every day. These procedures on the wards are drug administration, procedures that need a sterile technique, writing document, and communication with staff nurses many times. Therefore, there are opportunities for errors that could occur. The potential causes of errors involve:

2. Preventable causes

The causes of mistakes occurring during nursing practice on the ward are preventable.

They can be classified according to the issues discussed by the key informants from the focus group interviews as follows:

2.1 Knowledge

Nurse preceptor: "Students have knowledge; however knowledge is not enough to answer anything. For example, when asking about Infectious Control--IC or standard precaution, they could not answer and seemed confused. They told that the instructors didn't teach and they had never learnt. Consequently, they couldn't perform or performed incorrectly."

"The students had not enough knowledge and their thinking is not logical. They didn't think for cause and effect and made things with their own thoughts. For instance, they thought that the word "drip" referred only for intravenous. When saying to go and drip milk, they might bring milk and drip via intravenous because they adhered to the thinking that the word "drip" must be something given to patients via intravenous. Fortunately, I asked the student before practicing. It was found in almost all institutions. Then, I have to leave this matter for everyone because currently the students have their own thinking process which is different from ours. They feel confident in something that is not right.

Nursing instructor: "The students were not prepared for knowledge before practicing on the wards. They can't answer anything. Some students were nice. They tried to get knowledge; however, some students have to push.

Nursing student: "There was a lot of contents in class. I can't remember the content. I read books before practicing on the ward, but I can't remember."

2.2 Physical

Nurse preceptor: "The readiness of students both physically and mentally is important because if they are not ready, the errors may occur due to lack of concentration, or lack of consciousness when the students practicing on the wards, they seemed confused and fuzzy. When asked, they said that last night they did not sleep because he worked late."

Nursing instructor: "Some students fell asleep while listening a change shift report. When asked about the reason of sleepy, the students said that they didn't sleep last night."

Nursing student: "I have lot of work. Sometimes, I finished my plan late around 1am and woke up early."

2.3 Skills and experiences

Nurse preceptor: "They thought that they can do and did it without telling me or the instructor; but it was wrong. They felt confident but didn't do it correctly. The students did not have enough skills. They thought that they understood and did without telling anyone. It was worrying. I have to tell the students to notify me before practicing."

Nursing instructor: "Some students were inexperienced or some might not have enough experience. Some students might have done it once and therefore lacked the skill and expertise."

Nursing student: "I had never been done some procedures before and might be slow or incorrect."

3. Collaboration to prevent mistakes

The causes of mistakes are preventable if there are the collaborations among nursing instructors, nursing preceptors, and nursing students. The results from the focus group interviews suggested the guideline for risk prevention that.

1. Nursing school should provide nursing instructors or nurse preceptors every day to closely teach the students on the ward.

As mentioned,

Nurse preceptor: "The incident usually occurred during there was no nursing instructor or nurse preceptor."

The college should provide nursing instructors or nurse preceptors every day to closely teach the students on the ward to evaluate knowledge, skills, and readiness, and to build confidence in students before performing procedures on patients.

2. Nursing school should prepare nursing instructors in the scope of techniques for using new equipment in cooperation with nurse preceptors on the ward during orientation.

As mentioned,

Nurse preceptor: "Nursing instructors need to join with the nursing staff to understand some matters in the same way so that students are not confused."

Nursing instructor: "During the orientation, the college may invite nursing staff to be a guest speaker in some topics, for example, infectious control or new techniques to promote all the nurse preceptors, nursing instructors and students having the same idea. It would be good because the students would not be confused."

3. Nursing instructors should prepare nursing students before practical training through various activities.

As mentioned,

Nurse preceptor: "The students should be prepared for drug calculation and infection control which are common problems of students in all years. The activities can be organized during orientation or clinical teaching session.

Nursing instructor: "Assign students to make knowledge books before practicing on the ward. Nursing instructors have to check before and after enrolling in all practicum courses."

"The instructors emphasize the issues of risk management before practicing nursing on the ward and take the most common issues of risk as a case study for teaching students both in theory and practicum."

Nursing student: "Should review knowledge about the pathology of the disease and medication administration before practicing nursing and make a knowledge book before starting to practice."

4. Should be learned the previous mistakes together.

As mentioned,

Nurse preceptor: "We should reflect on the mistakes with the hospital and find preventive measures all together. It may take the previous mistakes to be analyzed the root causes of the problem and find a prevention measure, which allow the students to learn as well."

5. Provide a suitable experience for students and practice their skills before practicing.

As mentioned,

Nursing instructor: "Prepare a project for

practice using SIM-man and SIM-mom to allow students to develop their skills before practicing on the clinic."

Nurse preceptor: "Consider providing an experience that is appropriate for competency of individual student. The beginner students are unlikely to assign a difficult case."

Results and Discussion

Nursing students exposed the experiences of incidents about drug administration, infection, reporting, and communication. The causes of incidents on the ward were the lack of knowledge, skills and experiences, which was congruence with the study of Boonmee, Mahamitrwongsan and Kavila (2019). The study found that the 3rd year nursing students at Boromarajanani College of Nursing, Payao accounting for 48 students (23.80%) were involved in the incident report. The most incident risk was drug administration, followed by the infection. The drug administration error was found common because almost all patients need medication both oral and injection many times a day. Nurses were considered important personal in the drug administration process because nurses involved all processes of drug administration and nurses assisted patients in the process of home medication (Khemthong, 2016). Incidences in drug administration errors found during nursing practice were lack of correct patient identification, giving the wrong drug, wrong patients, wrong dose, and wrong route, as well as wrong technique of drug preparation (Jongpuntanimitr, 2018).

The infection was found common because nursing students performed nursing care and nursing procedures to patients every day and many times a day. Most nursing procedures need sterilization techniques. Therefore, it may prone to error and cause infection.

The major causes of incidents occurred from nursing students during practicing nursing were the lack of readiness in knowledge, skills, experiences and physical readiness. Additionally, the students perceived that they could do and feel confident to improperly perform nursing practice. The study of Boonmee, Mahamitrwongsan and Kavila (2019) showed that knowledge, perception and awareness on risk management and patient safety of the samples were significantly associated at the level of .05. The causes of practical errors were caused by lack of knowledge, skill, expertise, experience and awareness. Additionally, the cause of practical errors might be due to the lack of physical readiness from insufficient rest, which caused fatigue, sleepiness, lethargy, inactive and unconfident (Kumkong, 2020). The lack of confidence in practice due to having little experience made nursing students less likely to face decision-making problems than those with more experience (Boonrawdrak, Khumyoo & Wongsuttitham, 2019). Therefore, the guidelines for preventing mistakes while practicing nursing on the ward, which was reflected by the key informants focus on the effective preparation for nursing students' readiness before practicing nursing on the ward. This result was congruent with the study conducted by Kumkong (2020) found that practicing nursing of nursing students needed preparation in various ways; for example, simulation practice, clinical skill evaluation, or workshop. Practicing skills using simulation provided nursing students' ability to coping, developed the ability to solve nursing problems, adapted decision-making behavior, and had greater confidence in practice (Boonrawdrak, Khumyoo & Wongsuttitham, 2019).

The more experience person had much expertise and had the ability to properly and rapidly make a decision. As a result, the chance of harm to the patient is reduced, while patient safety is increased (Boonrodrug, Khamyuu & Wongsuttitham, 2020; (Kumkong, 2020).

In addition, the key informants suggested that the college should provide nursing instructors and nurse preceptors to teach on the wards every day and should effectively prepare nursing instructors and nurse preceptors. This suggestion was consistent with the study conducted by Kumkong and Nasae (2020) exploring the risk management in nursing practicum. It was mentioned that nursing instructors should have both quantity and quality. Nursing instructors should be sufficient for the number of students and should have expertise academic and professional expertise in order to achieve learning management in the practicum course. Nursing students are confident that throughout the practice they will have a nursing instructor or a nurse preceptor to assist and be with them until the completion of an important process or step. Furthermore, knowledge sharing about patient safety induces the discussion on patient safety and medical error, which is the powerful teaching method for patient safety.

Recommendation for research utilization

Academic administration committee or instructors in charge of the curriculum examine research results and develop a risk management system in nursing practicum courses in accordance with the risk management standards of the hospitals and health care institutes. Personal from the college and the hospital can share information and mutually learn to achieve the highest benefit.

Recommendation for further research

Nursing college should develop a program for the development of risk management competence of nursing students during practicing nursing.

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