LEARNING INNOVATION DEVELOPMENT OF INTRAVENOUS INJECTION FOR NURSING STUDENTS IN BOROMARAJONANI COLLEGE OF NURSING CHANGWAT NONTHABURI

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Abstract - The purposes of this study was to explore achievement of innovation for trains nursing student and develop learning innovation of "prosthetic human arm with bloody vein flowed" for enhancing nursing student skill of intravenous injection. The questionnaires were applied to evaluate the innovation. Purposive Sample were applied. The sample included 50 nursing students who study in third year and was trained with using the intravenous injection innovation. The findings found that the highest rate was innovative construction of materials to reduce global warming. The following were satisfaction with innovation, increase knowledge, reduce stress in practice, and enhance learning. Nursing practice should assess knowledge needs to support increasingly complex and awareness nursing care. Patient safety focus highlighted then nursing educators in all programs should develop the critical thinking skills.

Keywords - Learning innovation; intravenous injection, Nursing Practice, Nursing student

I. BACKGROUND

Nursing is a profession that provides care to patient, family community. Florence Nightingale as known lady with the lamp advocated the basic patients need in order to enhance quality of patient outcome[1]. Nursing practice skill must be considered in order to improve quality nursing professional. The student-centered learning is an approach concept for nursing student to learn of what, why and how. The core of learning environment focus on how the student has learner responsibility and activity. The student-centered have made progress of critical thinking and problem-solving skills

The curriculum of nursing subject include scientific knowledge, public health knowledge. The relevant subject comprised of a Pathophysiology, Pharmacology, Laws, Health Problems, theory of nursing, and professional ethics. Moreover, the nursing practices skill and competencies need to develop in the college of nursing. The traditional study of nursing are develop technical skills, enhance critical thinking, and learn the art and practice of nursing in a clinical environment[1,2]. The nursing college and instructor need to develop nursing simulation to help student adequately learn and meet the competencies demanded[3].
The appropriate simulation model of learning for nursing student rare and high costs of production. The innovations should developed to fit the learner and help student learn for increasing nursing skills before practice in the hospital.

The practical training of the nursing students in the nursing college found the problem of opening the veins (venipuncture) such as students was lack confidence, inadequate skills and experience, some steps are not practical[5]. The patients were afraid, feeing pain when they was punctured several times therefore, the students refuse to do.
Nursing college needs to focus on the potential development of students to obtain human resources in nursing organizations that they should work with knowledge, nursing
skills and competencies because nursing students with foundation for preventing health care errors[3,4]. Nursing educations in all programs develop the critical thinking skills.

II. DETAILED OF LEARNING INNOVATION DEVELOPMENT

The "prosthetic human arm with bloody vein flowed" was produced as shown in Figure 1.



Figure 1 Preparation the innovation equipment for vene puncture

The innovation was made from rubber arm and many tourniquet sizes which similar to blood vessel those are connected by glue. The another component was a set collect bood bag is string up over the rubber arm to make the red fluid flow by gravity.



Figure 2 the Nursing students practice on the simulation

The sample comprised of 50 the third-year of nursing student. They were practice venipuncture in the nursing lab room at the Nursing college by using "prosthetic human arm with bloody vein flowed".

The instructions of innovative teaching:
1) The instructor introduce the equipment for intravenous injection focusing on meaning, object, optional equipment for the purpose, step of nursing care, observe and warning.
b) The instructor demonstrate and describe how to use the innovation.
c) Nursing students practice with innovation one by one and observe each other.
d) Nursing students evaluated the innovation, give feedback to instructors, and discussion of innovative teaching.

III. RESULTS AND DISCUSSION

Findings from observation during student practice found that the most missed procedure was to remove the tire before pulling the needle out of the patient. Students are interested in collecting specimens than do the venipuncture. It can be explained that they don't want to do venipuncture directly. The instructor must emphasize the importance of the humanize and the right of the patients.

Table 1 demonstrated the highest rate was innovative construction of materials to reduce global warming. The following were satisfaction with innovation, increase knowledge, reduce stress in practice, and enhance learning. Nursing practice should assess knowledge needs to support increasingly complex and awareness nursing.

Topic	**Average Feedback N = 50**					**x̄**	**S.D.**
	5	4	3	2	1		
Enhance learning	10	37	3	-	-	4.14	0.49
Reduce stress in practice	18	27	5	-	-	4.26	0.63
Increse knowledge	18	29	3	-	-	4.30	0.58
Innovative construction of materials to reduce global warming/ Save environment	29	21	-	-	-	4.58	0.49
Satisfaction with innovation	26	24	-	-	-	4.52	0.50

TABLE I. Table of innovations satisfactions

The innovation development for training nursing student skill of Intravenous Injection are necessary for help student more confident to do venipuncture. Nurses and other health care professionals are increased scrutiny to provide safe life and effective care. Likewise, nursing education programs are faced with increased pressure to produce graduates who are capable of providing safe patient care[4]. A need exists to find innovative ways to effectively train more nursing students to better prepare them for today's health care environment. These approaches may increase the effectiveness and efficiency of the clinical nursing education system. Nursing instructor have been encouraging nurses to pursue creativity and innovation in nursing to improve nursing outcomes. Nurses' creativity plays a significant role in health and well-being[4]. Student's suggestions about two themes emerged from the data analysis, including a) Training with intravenous injection innovation can helps to release tension for nursing care b) The innovation should innovate to the virtual reality,c) Nursing students should plan for practice in a sequence steps. Therefore, college of nursing should provide a nurturing environment that is conducive to creative thinking, giving the nursing students opportunity for flexibility of practice learning, creativity, support for change, and reduce risk-taking during practice in the ward.

CONCLUSION

The knowledge from this study contribute to nursing education in helping student learn practice like usual situation. It valuable for nursing instructors for preparing student before practice in the clinic.

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