Using Simulation Program to analysis Nursing performance ability of Nursing students after practical training

Hyeon-cheol Jeong

1Dept. of Nursing, Sahmyook University
815 Hwarang Ro, Nowon-Gu, Seoul 139-742, KOREA
love2hc@syu.ac.kr

Abstract. The study is an analysis of research processed by the nursing students working on nursing intervention on scenarios such as hypoglycemia and respiratory distress patient using high fidelity simulator. The subjects are the nursing students that are currently in 3rd year in university. These students were to handle 55 cases of hypoglycemia and 70 cases of difficulty in breathing. The subject group have gone through 1hours of education and were to experience self-education for a week. After this, their behavior in practice sessions was recorded on video and reviewed. The collected information were analyzed by using SPSS 21.0. The subjects ability to nurse were measured with independent t-test. As a result of study, the subject with hypoglycemia has highest intervention rate and the subjects with difficulty in breathing had highest Focus Assessment. Also subject of hypoglycemia had the highest ability of nursing.

Keywords: Patient simulation, Hypoglycemia, Respiratory distress

1 Introduction

The hospital is the main department of practicing nurse education. However, the hospital is being operated for the purpose of diagnosing and managing illness, which is the reason for hardness of getting support nor cooperation to approach the goal in performing University knowledge on the scene[1]. To supplement these limitations, students proceed simulation studies and in order to supplement the weaknesses of the simulation, the experience should be thoroughly taken in to account during the practice.

Currently, the main education thesis of the clinical practice is being directly or indirectly exposed to nursing care activity. Recently, the combination of high-fidelity simulator which is a realization of the real experience in the field and Standardized Patient makes is feel and look more real during the practice simulation[2]. Moreover, it also demonstrates traditional clinical practice aspects to the students. Therefore, in
order to back up these limitations, the education of nursing simulation which contributes the client's health is being recommended.[3].

Domestic former studies of simulation study has been applied to nursing education which had an overall positive effect on learners[4]. Especially, those subjects who went through the simulation education improved on their Auto didacticism, study satisfaction, clinical performance ability, and critical thinking. Therefore, it has been proved that the use of simulation study has an outstanding effect on improving the clinical ability of the learners[5].

However, it has not been proven whether or not the usage of nursing simulation accomplishes a certain point of aims of the lesson although the simulation, indeed, has a positive effect on experiencing active nursing activity. Therefore, this study deals with performing simulation in two scenarios of hypoglycemia and difficulty in breathing. Also, the study illustrates effective nursing simulation goal settings and the way to improve directions in nursing performances.

2 Study Method

2.1 Study subject

The subjects of this study are juniors of Sahmyook University who were studying basic medicine and fundamentals of nursing and who had no previous experience with simulation-based practice.

2.2 Simulation scenario and application

Highly practicable simulator(SimMan® 3G, Laerdal, Starvanger, Norway) was launched in simulation scenario about hypoglycemia and difficulty in breathing. Therefore, the nurses utilized the highly practicable simulator where the use of it was approved by the patients in advance. At last, the video was filmed.

2.3 Nursing performance ability

Evaluation of the aims of the study among hypoglycemia and difficulty in breathing has been distributed in to three sections. Moreover, 18 subsections were evaluated according to the recorded video and given 1 point to those students who did not perform, 2 points to those students who did perform, and 3 points to those students who performed appropriately. The higher the achieved points are the better the students are in nursing performance ability.
2. 4  Procedure and method of gathering data

This study was analyzed with 55 cases of hypoglycemia and 70 cases of difficulty in breathing between April, 2013 to May 2015. The experimenter held 2 hours of education to subjects on nursing intervention on hypoglycemia and difficulty in breathing. The next day, the experimenter distributed learning materials to 3 subject among 3 teams. Each teams were given 10 minutes for orientation and 15 minutes for organizing scenarios.

2. 5  Material analysis method

The study utilized the IBM SPSS 21.0 program to analyze the differences in each scenarios through independent t-test.

3  Conclusion

The subject, hypoglycemia, had the most highest degree in Intervention and the subject with the difficulty in breathing had highest degree in Focus assessment, <table 1>. The overall aims of the learning aspect degree were demonstrated much more higher among the patient with the hypoglycemia than those patients with the difficulty in breathing, \( t = -5.645, p < .001 \).

| Table 1. Comparison between hypoglycemia and difficulty in breathing of aims of learning. |
|-----------------------------------------|---------------------------------|------|------|
| Contents                  | Hypoglycemia (n=55) | Difficulty in breathing (n=70) | t    | p    |
|                          | M ± SD              | M ± SD                          |      |      |
| Preparation              | 2.08 ± 0.55         | 1.83 ± 0.38                     | -2.877 | .005 |
| Assessment               | 2.51 ± 0.28         | 2.29 ± 0.36                     | -3.834 | <.001|
| Intervention             | 2.58 ± 0.37         | 2.18 ± 0.30                     | -6.742 | <.001|
| Total                    | 2.39 ± 0.29         | 2.10 ± 0.28                     | -5.645 | <.001|

4   Discussion and Conclusion

The study of simulation education is to enhance the ability to solve these sudden situations. Therefore, when conducting simulation education, the students dealing certain unexpected problems may shrink their confidence since they were given no infor-
mation or what so ever to handle these situations[6]. At last, this study suggests that students with no experience of simulation practice should go through simulation education in advance[7]. According to studying former research, there were differences in technological aspect and communication aspect in clinical performance ability section which was conducted by using High-fidelity and Multi-mode simulation. However, other aspects such as business management, teamworks, decision-making, and situational awareness was almost the same. Moreover, in satisfactions aspect, it recorded in accordance with the results with the intervention and technological aims of lesson[8].

Therefore in this study, students were given safe environment such as using similar models of a patient to reduce the psychological pressure. This engaged in helping students to actually improve their confidence by applying what they have learnt in real situations such as practice.

References