Experience of participating in simulation-based education

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Abstract. This was a phenomenological study to examine about the education participation experience of nursing students who completed the educational emergency nursing care simulation program for hyperglycemia patients. Nine students who had no simulation experience were examined in this research among the present nursing department students of S university. For this research, one trained research assistant divided the students into 3 teams with 3 members each and provided 2-hour theoretical education on knowledge on diabetes and nursing intervention. Then the assistant performed 2 rounds of simulation educations and debriefing. To investigate the education participation experience of the subjects herein, the focus group interview method was conducted in order to collect data. As a result of this research, the simulation education participation experience was found to be categorized into 4 areas and 11 sub-themes. The 4 areas identified were the 'first meeting with actual clinical examples', 'experiencing the integrated application of individual nursing knowledge', 'finding proper identity as a future professional nurse' and 'growth by mistakes and repetition'. The research participants, though in virtual situations, showed a very positive attitude to the overall effectiveness of the practice.

Keywords: hyperglycemia, emergency nursing, simulation-based education, focus group

1. Introduction

With the recent medical technology development and the rising number of patients with more serious cases, deeper expertise and techniques are required in the clinical field in terms of nursing intervention. In this situation, nurses are required to have more sophisticated working-level capacity[1]. Nursing educational organizations focus on nurturing professional nurses capable of high-quality nursing service by providing both theoretical and practical education programs[2]. However, hospitals, currently the main organization of nursing practice education in Korea, are limited in providing proper assistance and cooperation for the purposes of nursing practice education as they are for disease diagnosis and treatment[3]. For this reason, it is true that opportunities to practice nursing service first-hand have been decreased during clinical practices because students just watch and observe. In order to improve such a
clinical practice situation in the country, simulation-based nursing education has been introduced and recommended as a useful way to do so.

Education programs using simulation have been applied to diverse nursing care areas and given positive effects on learners and proved to be effective in improving various kinds of clinical capacities[4]. But, most of the studies concentrate on quantitative results, revealing the necessity for a content study based on profound examination of learners’ inner aspects.

In this recognition, this research seeks to provide the basic materials for effective future simulation-based education which reflects the internal demands of learners by phenomenologically analyzing nursing students’ experiences of emergency nursing care simulation programs for hyperglycemia patients.

2. Method

2.1 Design

This present study is on the learning experiences of nursing student who participated in a simulation-based emergency nursing service education program for hyperglycemia patients. It is a content study seeking to understand the bottom lines of each individual experiences. To this end, the Colaizzi phenomenological method [5] was applied to examine their statements and the significances of their experiences.

2.2 Subjects

This research targeted 2nd-year students at the nursing department who had completed subjects related to introduction to nursing science, basic nursing science and practice, and therapeutic communication until the previous term. The research experiment details were publicized in an internet site in advance to receive applications and 9 of them were finally selected to be studied herein.

2.3 Procedure

This research experiment was conducted from September 1 to 26, 2014. The researcher provided a 2-hour theoretic lecture on diabetes and nursing care. Then, for 7 days from the next day, the participating students were provided with learning materials on simulation-based education on emergency care for self-study in three teams with three members each. After then, a total of 2 rounds of simulation education and debriefing were conducted.

For this experiment, a high-fidelity simulator (SimMan 3G, Laerdal Medical, Norway) was utilized. The students were grouped into 3 teams with 3 members respectively to receive the simulation class. Each team received a 10-minute orientation and 15-minute scenario operation. These three teams were debriefed
altogether for 50 minutes. After the simulation class, the participating students were interviewed in a sub-group lecture room for the focus group members.

2.4 Data analysis

In this research, nursing-student focus group interview was conducted on their experiences of participating in the simulation-based emergency care education for hyperglycemia patients and the data was collected for a content analysis. This analysis method is performed to understand important key cases, themes and types in a raw data materials. That is, content analysis is to organize and simplify complicated data into easier themes or categories based on a certain criteria [6].

For data analysis, the interview data was intensively examined and to discover the gist, every material was read repeatedly first. Then, data coding was performed by marking words or phrases including key ideals and thoughts among them. Of the codes, mutually related ones were bound together for further abstractiveness, categorization and naming. With the focus on these categories, the original data materials were overall read again for further analysis to test the reliability of the categories. To improve the reliability and validity of the research findings, 2 nursing department professors with extensive experience in content analysis reviewed the analyzed ideas, category names and the level of abstractiveness.

3. Results

Based on the interview data, the 2nd-year nursing students’ simulation program experiences were found to be divided into 4 categories and 11 sub-themes [table 1].

The 4 categories were ‘first meeting with actual clinical examples’, ‘experiencing the integrated application of individual nursing knowledge’, ‘finding proper identity as a future professional nurse’ and ‘growth by mistakes and repetition’. As it was their first ever exposure to clinical situation, the participants, though it was virtual, found it was very unfamiliar, embarrassing and powerless for themselves. The two rounds of simulation-based program was never an easy experience to deal with the participants but a very tensed and hard one. Still, the participants showed considerably positive attitude to the overall practice effectiveness. More specifically, the following explanation can be provided under the 4 categories;

<table>
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<tr>
<th>Table 1. Experience of participating in simulation-based emergency nursing care education program for hyperglycemia patients</th>
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<td><strong>Category</strong></td>
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<td>First meeting with actual clinical examples</td>
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<td>Experiencing the integrated application of individual nursing knowledge</td>
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Finding proper identity as a future professional nurse

- Understanding the duties of nursing profession and the sense of responsibility
- Realizing the meaning of genuine caring
- Feeling the need for further study by oneself

Growth by mistakes and repetition

- Growing confidence through repeated experiences
- Clearer demarcation between knowing and not-knowing
- Looking back on mistakes

4. Discussion

As the participants herein had not a single experience of high-fidelity simulation-based on training, it was found that they faced the various aspects of real clinical situations which had not been experienced before, in this simulation education providing integrated situations. In the first meeting with actual clinical examples, the students experienced some negative aspects such as unfamiliarity and embarrassment in unexperienced environment. This finding is consistent with those of study by Kim and Suh[7] that the participants were found to be surprised and amazed by the simulation and were too embarrassed to figure out what to do as if they were in a real situation. On the other hand, through the simulation experience, the participants learned what they have to do from the actual situation out of textbooks such as effective communications with patients or interactions when they were placed in a realistic clinical situation. They also experienced more vivid lessons from the simulation program than those of from the typical existing teaching methods. Just as the research finding by Lasater[8], the present study found that, by reenacting complicated clinical situations, simulation-based educational programs enable since participants to have realistic experiences and vivid memory.

Since participants had no previous simulation training experience before they made many mistakes initially due to embarrassment and unfamiliarity. But by repeating the practices and trying to resolve a patient’s nursing problem with their team members, they could enhance their confidence while growing by reviewing their practices and doing feedback. Also they expressed that they could be able to respond more accurately with higher confidence when they are faced a similar clinical situation after graduation. This finding is consistent with the report by Shin and Shim[9] that nursing students’ confidence improved after a simulation training on child nursing care as well as the report by Yuh[10] that the participants’ confidence enhanced after a simulation training on emergency nursing care for newborn infants. The finding is also similar to the research finding by Lee[11] that nursing students’ confidence in nursing problem resolution increased after a simulation education as found in their interview analysis.

Based on the research findings above, the simulation-based emergency nursing care education program for hyperglycemia patients is expected to be utilized as an effective training method to help nursing students narrow down the gap between theories and practices and develop sufficient level of clinical capacity to perform complicated and diversified nursing intervention.
References


