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The effect of simulation-based SBAR education program for nursing students

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Abstract

The purpose of this study was to analyze the effects of a simulation based SBAR education program on communication clarity and self-leadership of nursing students. Methods: This research was based on a nonequivalent control group pre-post design. 60 students attending the clinical nursing practice course at S Nursing College participated in the study. To analyze the program effects, paired t-test and t-test were used. As a result, after simulation based SBAR education program, the participants in the experimental group showed significantly increased communications clarity scores and self-leadership scores compared with the control group. Simulation-based SBAR is an effective method of education that improves communication skills and leadership of nursing students. In conclusion, SBAR application program education will reduce various conflicts caused by communication errors and contribute to reduce patient safety problems. From now on, we need to develop a variety of clinical scenarios.

Keywords: *Nursing, Simulation, Communication, Education, Student*
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1. Introduction

According to a recent study in Korea, SBAR education programs have improved [1]communication skills and patient safety among nursing students. [1]. The SBAR includes Situation (S), Background (B), Assessment (A), and Recommendation (R), which are very important as structured communication tools [2]. SBAR has been used in hospitals to reduce errors among medical staff and to increase patient safety and efficiency [3].

SBAR programs are an efficient way of communicating that makes minimal patient information easy, concise and fully exchanged. [4]. Communication clarity is limited to the teaching of the class, so team-based simulation classes are emphasized. The recent clinical practice training of nursing students at nursing colleges has limited performance of nursing work, making it difficult to produce students with the nurse's capacity required on-site. [5]. SBAR simulation is an effective learning strategy for nursing students who lack practical opportunities to enhance knowledge, problem solving, critical thinking and communication skills through re-enactment of clinical conditions [6].

It was also effective in improving the clarity of the communication on the wire through simulation SBAR training for nursing students [7]. Accordingly, it is necessary to apply the SBAR as a training to improve the communication skills among medical professionals in the curriculum of nursing colleges and to experience the problem solving process.

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1.1 Purpose of the Study

The purpose of this study is to investigate the effectiveness of communication clarity and self-leadership of nursing students based on simulation.

1.2 Hypotheses of the Study

Hypothesis 1. The group with simulation-based SBAR training will difference in the degree of clarity of communication with uneducated groups.

Hypothesis 2. The group with simulation-based SBAR training will difference in the degree of self-leadership with uneducated groups.

1.3 Definition of term

Communication clarity is to communicate the intent of the communicator to understand what the communicator means [8]. Self-leadership is a process in which individuals exert influence on themselves to motivate the spontaneity and self-directedness required to judge and act on their own initiative and perform tasks in a desirable way [9].

2. Methods

2.1. Research design

This study is a non-equivalence control pre-post-design study to determine the effect of simulation-based SBAR education program on communication clarity and self-leadership of nursing students.

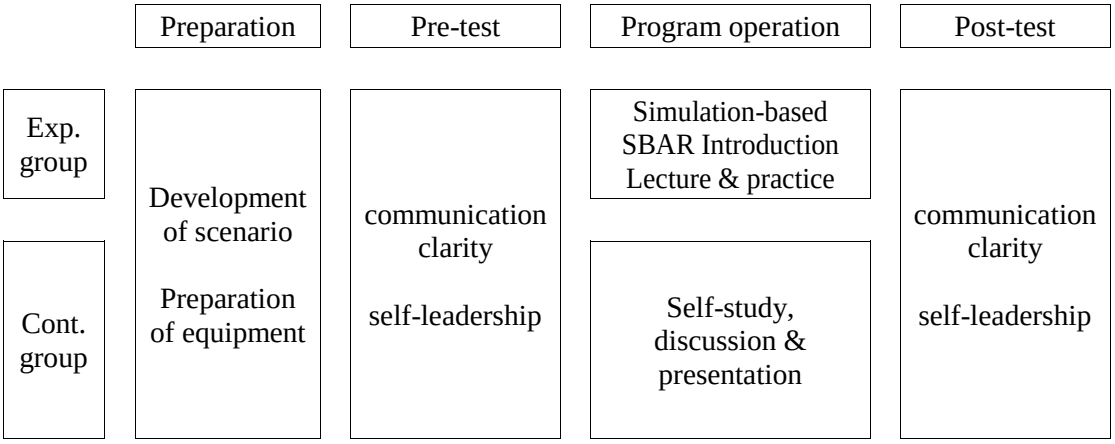

Figure 1. Research process.

2.2. Participants

The participants were 60 senior nursing students enrolled in S nursing college from G city. Survey was conducted with subject group of 60 nursing student living along in Southern cities S and from June 1 to 30, 2018.

2.3. Instrument

The communication clarity measurement tool that was originally developed by [9] and modified by [1] was used to measure communication clarity. The survey comprised of 14 questions in total: The tool includes questions such as whether the nurse reports to the physician clearly and logically, and whether the patient's problem was conveyed concisely and clearly. To measure self-leadership, we used self-leadership scale developed by Manz [10] modified and supplemented by Kyung Hee Cho [11]. This tool consists of a total of 18 questions, and the higher the score, the higher the degree of self-leadership.

2.4. Research Process

This study consists of scenario development and simulation application process for simulation based SBAR education program. In order to develop the scenario, the clinical scenarios used in Laerdal and National League for Nursing were revised and included SBAR components such as patient's symptoms, clinical results, and doctor's prescriptions in the overall scenario. The final scenario was a 33-year-old female asthma patient who visited the E.R. due to severe breathing problems. Similar to the clinical environment, the simulation room is equipped with one patient bed and high fidelity equipment. Students go through the process of taking care of their team members within a given scenario. The program process was followed by a preliminary survey of communication clarity and self-preservation by both the experimental group control group, which operated lectures and scenario-based simulation practices such as the definition, configuration and application effects of SBAR. On the other hand, the control group was asked to provide handouts for patient safety and to hold a group discussion.

Table 1. Simulation-based learning objective and patient data

Learning objective	Identifies the primary nursing diagnosis Implement patient safety measure Implement therapeutic communication Demonstrates effective teamwork
Patient information	Females-Age 33 years. weight 99 pound(45kg) Hight61 Inches(1.55 meter) Alleges: Seasonal hay fever Prior medical history: Asthma (being treated since childhood). Medication used at home include Beclovent, Intal, Serevent, and Proventil inhaler Recent medical history: Recent upper respiratory infection

2.5. Data analysis

The collected data were analyzed using the SPSS/win 20.0 Program. The homogeneity of the two group(experimental and control) was tested. To test the hypotheses, the differences in variables before and after the intervention in each group was analyzed using paired t-test and

differences of dependent variables between two groups after the intervention were analyzed with a t-test .

3. Results

3.1. Homogeneity test

The study involved a total of 60 third-grade nursing students, 30 students from each group. The sex ratio for experimental group was 20.0% for ‘males’, 80.0% for ‘females’ while control group was 26.7% for ‘males’, 73.3% for ‘females’ Table 2.

Table 2. Homogeneity Test of General Characteristics between Two Group

Variables		Exp.(n=30)	Cont.(n=30)	$\chi 2$	p
		N (%)	N (%)		
Gender	Male	6(20.0%)	8(26.7%)	.22	.728
	Female	24(80.0%)	22(73.3%)		
Age	22 years old	4(13.4%)	3(10.0%)	3.74	.152
	23 years old	10(33.3%)	8(26.7%)		
	>24 years old	16(53.3%)	19(63.3%)		

3.2. Hypothesis test

3.2.1 Hypothesis 1

“The experimental group, who participated in simulation based SBAR education program would show difference in communication clarity compared to the control group.” Communication clarity score increased by 0.31 point for the simulation-based SBAR-educated group and 0.03 point for the control group. There was significant difference between the two groups (t=-2.49, p =.020). Thus, hypothesis 1 was supported Table 3.

3.2.2 Hypothesis 2

“The experimental group, who participated in simulation based SBAR education program would show difference in self-leadership compared to the control group.” Self-leadership score increased by 0.29 point for the simulation-based SBAR-educated group and decreased by 0.03 point for the control group. There was significant difference between the two groups (t=11.75, p=.001). Thus, hypothesis 2 was supported Table 3.

Table 3. Differences of the Outcome Variables between the Experimental and Control Group (N=60)

Variables	Groups	Pretest	Posttest	Difference	t	p
		M±SD	M±SD	M±SD		
Communication clarity	Exp. (n=30)	3.27±0.45	3.58±0.59	-0.31±0.44	-2.49	.020
	Cont. (n=30)	3.31±0.36	3.34±0.52	-0.03±0.51		
Self-leadership	Exp. (n=30)	3.48±0.42	3.77±0.41	-0.29±0.42	11.75	.001
	Cont. (n=30)	3.50±0.36	3.47±0.43	0.03±0.33		

4. Discussions and Conclusion

The results of this study confirmed that simulation-based SBAR education had a positive effect on improving communication clarity and self-preservation among nursing students who experienced clinical practice. In addition, team-based simulation learning methods are believed to have improved the confidence required by the ability of nursing students to solve problems.

Through SBAR simulation training program, it is expected to help reduce stress and conflict caused by communication in clinical field. In addition, SBAR education program has a positive effect on the communication ability and leadership improvement, which may contribute to the reduction of the incidence of patient safety problems that may be caused by communication errors.

Therefore, it is shown that using Simulation-based SBAR education learning for nursing students is effective teaching method.

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