

## **Opinions of Nursing Students towards Simulation Efficiency in Nursing Education\***

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**ABSTRACT:** The students who are studying in Necmettin Erbakan University Nursing Department at nursing education was conducted to determine their views on the effectiveness of simulation. The sample of the study, department nursing studying in second class, who agreed to participate in the study and Medical Nursing participating in the simulation application forms in the course of 48 students. 29.2% of the students in the courses of visual materials, %56,2% visual materials, %89,6% that gives you the opportunity to practice in the course of these materials can increase the success stated. Of the students who participated in the study 89.9% of the simulation suggested that it is useful for the nursing profession. Simulation for affairs that is useful for the nursing profession is a safe, controlled environment simulation with the opinions of the technical and intellectual skills to teach the multiple questions on the activity, a significant relation between statistical aspects. ( $\chi^2 = 20.43$ ,  $p < 0.05$ ). Have a positive opinion of the majority of the students towards the use of simulation in nursing education and at the same time visual, auditory, and gives you the opportunity to practice the permanence of learning because it is a material that is expected to increase.

**Keywords:** Nursing education, simulation, student opinions

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### **I. INTRODUCTION**

Nursing is an applied profession which significantly requires the merging of theoretical knowledge and practical skill (Boztepe and Terzioğlu 2013). The aim of nursing education, which is an education that includes theoretical and applied teaching and learning experiences, is to raise individuals who can use their full potentials. Professional nursing education is based on cultural and occupational knowledge, clinical and theoretical skills and the individuals system of values. During this period of education the student on one hand gets the theoretical information which is needed at school and on the other hand tries to use his/her clinical judgment in application areas and transform his/her acquired knowledge into behaviors (Hakverdioğlu Yönt et al., 2015).

Different teaching aids are used in nursing education to strengthen the students' psychomotor and cognitive skills learning activities. While increasing the students' attention these tools also save the education from being monotonous and provides permanence in teaching by ensuring the participation of the students. According to the researches that are conducted 10% of what is read, 20% of what is heard, 30% of what is seen and 90% of what is seen, heard, said and done are permanent (Hannafin and Foshay 2008; Karaduman 2008).

It is not always possible for students to gain appropriate clinical experience because the clinical application areas are limited in present days' complicated health care system, the hospitalization period of the patients are shortened and the students spend less time at the clinics due to the education system-induced reasons (Rhodes and Curran 2005).

Nowadays it has become more difficult to train nurses which give an extensive care in healthy caring environments because complex patients need care in complicated caring environments (Decker et al., 2008, Rhodes & Curran, 2005). Nursing educators are having relatively hard time in creating adequate clinical experience for preparing students to answer such application demands (Rhodes and Curran 2005).

There is an accepted gap between clinical application and theory which can be fulfilled by schools of nursing that use simulation (Alinier et al., 2006). Simulation training is a strategy that is suggested in teaching the secure clinical application; it is restrained because of different reasons such as health care professionals should take care of real patients in their early learning periods, the shortness of hospitalization duration, high patient awareness, lack in the number of nurses and feeling anxiety about and having concern towards preventing medical errors (Rauen, 2004; Terzioğlu et al. 2013).

Simulation, which is also named as emulation, is defined as imitating the tasks, relations, equipment, behaviors and some cognitive activities which exist in the reality. Within the scope of simulation applications used in nursing education there is video, DVD display, computer-based simulation, computer-controlled simulator, interactive patient simulators and role playing with simulated/standardized patients (Karadağ et al. 2015, Terzioğlu et al. 2012).

It is known that simulation applications used in skills education improves to establish a bond between theory and clinic, it improves developing the psychomotor skills, decision making, critical thinking and therapeutic communication methods (Cantrell 2008; Chronister and Brown 2012).

Simulation training makes the skills education easier without exposing the patients to certain risks, allows students to gain experience without going through anxiety and allows ensuring a safe environment for learning (Rhodes and Curran 2005).

The research was carried out to determine the opinions of the students, who study in NecmettinErbakan University in the Nursing Department, regarding the simulation efficiency in nursing education.

## II. METHODOLOGY

The research his in descriptive quality. The sample of the research is comprised of 48 students who study second grade in Nursing Department, who accepted to participate in the research and who participated in the simulation application which was held within the scope of Internal Diseases Nursing Lesson. The data are collected by a questionnaire which is created by making a literature review. Number, percentage and chi square test are used during the analysis of the obtained data. The level of significance is taken as 0.05 in the tests that are carried out. The research is pattern descriptive and relation seeking.

The population of the research is comprised of students who study second grade in NecmettinErbakan University, Faculty of Health Sciences, Nursing Department. The sample is not distinguished because the whole population was going to be included in the study. 48 students who study second grade in Nursing Department, who accepted to participate in the research and who participated in the simulation application which was held within the scope of Internal Diseases Nursing Lesson were included in the research.

The data is collected by a questionnaire which is created by making a literature review. The questionnaire consists of two sections which are; the socio-demographic attributes section and the section in which there are the opinions of the students regarding the simulation. The section which holds the opinions of the students is prepared in 3 point likert type.

Number, percentage and chi square test are used during the analysis of the obtained data. The level of significance is taken as 0.05 in the tests that are carried out.

Due to the condition that the students who accepted to participate in the study participated to the simulation application within the scope of Internal Diseases Nursing Lesson, the study was carried out in a small group consisting of 48 students.

## III. FINDINGS

**Table 1.** Personal Characteristics of Students

Personal Characteristics	Number	%
<b>Age</b>		
18 years	1	2.1
19 years	21	43.8
20 years	21	43.8
21 years	2	4.2
22 years	3	6.2
<b>Gender</b>		
Female	39	81.2
Male	9	18.8
<b>Mother's Educational Status</b>		
Illiterate	4	8.5
Primary School	28	59.6
Middle School	10	21.3
High School	3	6.4
Undergraduate/Graduate and Above	2	4.2
<b>Father's Educational Status</b>		
Illiterate	1	2.1
Primary School	21	43.8
Middle School	10	20.8
High School	6	12.5
Undergraduate/Graduate and Above	10	20.8
<b>Status of Choosing Nursing</b>		
Chose Willingly	26	54.2
Chose Unwillingly	22	45.8
<b>Status of Enjoying Nursing</b>		
Enjoys Nursing	34	72.3
Does Not Enjoy Nursing	13	27.7
<b>Type of Material Effective in Learning</b>		
Visual	14	29.2
Auditory	27	56.2

Visual/Auditory	43	89.6
<b>Prior Knowledge Related to Simulation</b>		
Yes	33	68.8
No	15	31.2
<b>The Necessity of Simulation for The Nursing Profession</b>		
Yes	43	89.6
No	5	10.4

Personal characteristics of the students (Table 1) were obtained in our study and it was found that the mean age was 19.68± 0.85 and 18.8% were male and 81.2% were female. It was found that 54.2% of the students chose the nursing department willingly. 72.3% of the study group enjoyed nursing, 89.6% thought the type of material effective in learning was visual/auditory, 68.8% had prior knowledge about simulation and 89.6% thought the simulation was necessary.

**Table 2.** Comparison of personal characteristics of students and usefulness of simulation for the nursing profession

Personal Characteristics	Those who think simulation is useful		Analysis	P
	Number	%		
<b>Age</b>				
18 years	1	100	X <sup>2</sup> =1.052	P=0.902
19 years	19	90.5		
20 years	18	85.7		
21 years	2	100		
22 years	3	100		
<b>Gender</b>				
Female	36	92.3	X <sup>2</sup> =1.654	P=0.198
Male	7	77.8		
<b>Type of School Graduated</b>				
High School	14	100	X <sup>2</sup> =15.423	P=0.009
Anatolian High School	23	92		
Vocational High School	2	100		
Other	3	100		
<b>Status of Choosing Nursing</b>				
Willingly	24	92.3	X <sup>2</sup> =0.45	P=0.502
Unwillingly	19	86.4		
<b>Status of Enjoying Nursing</b>				
Enjoys Nursing	30	88.2	X <sup>2</sup> =0.164	P=0.685
Does Not Enjoy Nursing	12	92.3		
<b>Prior Knowledge Related to Simulation</b>				
Yes	28	84.8	X <sup>2</sup> =2.537	P=0.111
No	15	100		
<b>Type of Material Effective in Learning Is Visual/Auditory</b>				
Yes	38	88.4	X <sup>2</sup> =0.649	P=0.420
No	5	100.0		

As as a result of the comparison of personal characteristics of students and usefulness of simulation for the nursing profession, it was found that there was a statistically significant relationship between the type of school from which the student graduated and finding the simulation useful (x<sup>2</sup>=15.423, p<0.05). No statistically significant relationship was found between personal characteristics and finding simulation useful.

**Table 3.** Student Opinions

Student Opinions	Agree		Disagree		Neutral	
	Number	%	Number	%	Number	%
Simulation is effective in teaching technical and intellectual skills in a safe, controlled environment.	43	89.6	2	4.2	3	6.3
Simulation and interdisciplinary team work are important learning strategies for improving the communication between different professional groups.	39	81.3	7	14.6	2	4.2
Nursing teachers evaluate nursing students in a standard, realistic and unbiased manner.	33	68.8	8	16.7	7	14.6
The gap between theoretical training and practice is being filled.	33	68.8	6	12.5	9	18.8
Simulation training is a very complex and versatile training method.	14	29.2	13	27.1	21	43.8
All nursing schools should gradually make the transition from less sophisticated model to this system, so that students will be trained in the best way possible with advanced scenarios and models.	39	81.3	6	12.5	3	6.3
Simulation allows nursing students to demonstrate an empathetic	39	81.3	3	6.3	6	12.5

approach in clinical environment.						
Simulation allows students to gain experience without harming individuals through repetition and learn from their mistakes.	42	87.5	4	8.3	2	4.2
Students can see results of their nursing practice in real time.	36	75.0	4	8.3	7	14.6
Simulation allows for effective learning.	40	83.3	3	6.3	5	10.4
Simulation allows for working with true-to-life patients.	40	83.3	3	6.3	5	10.4
Simulation allows students to realize primary care requirements.	30	62.5	2	4.2	15	31.3
Students learn how to communicate with patients.	32	66.7	7	14.6	8	16.7
Students learn how to approach patients holistically.	31	64.6	5	10.4	11	22.9
Students learn how to plan the patient care.	28	58.3	8	16.7	12	25.0
Simulation allows students to realize their shortcomings.	39	81.3	5	10.4	4	8.3

As seen from student opinions given in Table 3, 89.6% of students agreed with the statement ‘Simulation is effective in teaching technical and intellectual skills in a safe, controlled environment’, 87.5% agreed with the statement ‘Simulation allows students to gain experience without harming individuals through repetition and learn from their mistakes’, 83.3% agreed with the statement ‘Simulation allows for working with true-to-life patients’ and 81.3% agreed with the statement ‘Simulation and interdisciplinary team work are important learning strategies for improving the communication between different professional groups’. On the other hand, 43.8% of the students stated that they had no opinion on the statement ‘Simulation training is a very complex and versatile training method’.

**Table 4.** Comparison of students’ status of choosing the nursing department and student opinions

Student Opinions	Students’ Status of Choosing The Nursing Department		Analysis	P
	Number	%		
<b>Simulation is effective in teaching technical and intellectual skills in a safe, controlled environment.</b>				
Agree	24	55.8	X <sup>2</sup> =0.585	P=0.746
Disagree	1	50.0		
Neutral	1	33.3		
<b>Simulation allows students to realize primary care requirements.</b>				
Agree	21	70.0	X <sup>2</sup> =10.49	P=0.007
Disagree	1	50.0		
Neutral	3	20.0		
<b>Students learn how to communicate with patients.</b>				
Agree	22	68.8	X <sup>2</sup> =9.920	P=0.007
Disagree	1	14.3		
Neutral	2	25.0		
<b>Students learn how to approach patients holistically.</b>				
Agree	19	61.3	X <sup>2</sup> =2.417	P=0.299
Disagree	2	40.0		
Neutral	4	36.4		
<b>Students learn how to plan the patient care.</b>				
Agree	19	67.9	X <sup>2</sup> =6.282	P=0.043
Disagree	4	50.0		
Neutral	3	25.0		

As a result of the comparison between the status of choosing the nursing department and student opinions, it was found that there was no statistically significant difference between choosing the nursing department willingly and the opinion that simulation is effective in teaching technical and intellectual skills in a safe, controlled environment ( $p>0.05$ ). Astatistically significant difference was found between choosing the nursing department willingly and the opinion that simulation allows students to realize primary care requirements of patients ( $X^2=10.49$ ,  $p<0.05$ ).

#### IV. CONCLUSION

In nursing education, learners are expected to acquire both theoretical information and skill; and to combine this theoretical information with practical skill in clinic. According to the relevant literature, simulation plays significant role in development of these behaviors expected from nursing students (Şendir and Doğan, 2015). In the present study, it is considered that the gap between the theoretical information and practice could be filled in by simulation.

Whilst Robinson – Smith et al. (2009) stated that working with simulated patients was instructive and effective, Ebbert and Connors (2004) noted that the environment was realistic and simulation was useful. Karadağ et al. (2015) noted that simulation allowed for effective and permanent learning and created a true-to-life environment. In our study, it was found that simulation was useful in effective learning, working in a true-to-life environment and teaching technical and intellectual skills in a safe and controlled environment.

In the study conducted by Karadağ et al. (2015), it was stated that the simulation application allowed students to approach to the patient holistically and similar results were obtained in our study as well. Allinier et al. (2006) stated that students improved in terms of clinical skills and competence and critical thinking as a result of controlled simulation applications.

Various studies from the current literature report that simulation-based learning method is considered as an effective method in decision-making in clinic environment and in developing problem-solving skills (Alinier et al., 2006; Flude et al., 2012; Smith et al., 2009). In the present study, students indicated that simulation was effective in recognizing primary caring needs of patients, in patient are planning and realization of deficiencies. It was concluded that obtained findings support the current literature.

Reid-Searl et al. (2012) emphasized in their study that simulation was an efficient method in terms of preparing students for the real situation in clinical departments. In the parallel line, it was determined in this study that simulation provides an opportunity to work on real-like patient. In this regard, having opportunity to work on a real-like patient is crucial in terms of preparing students for real clinical environment. Correction of mistakes immediately within a safe and controlled environment would contribute into ensuring persistent learning and avoiding errors that could arise in real clinical environment.

As mentioned by Şendir and Doğan (2015), simulation provides a positive and useful environment for students' learning, self-improvement and permanent and effective learning. In conclusion, the simulation application has positive effects on training and professional development of nurses. However, in order to make use of positive contributions of simulation and increase persistence, clinical nurses and academics need to cooperate.

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