Nursing practices take place in complex and dynamic healthcare environments. To be successful in their roles in these environments, nurses must be exposed to well-designed educational experiences (6). Nursing education occurs not only in a classroom, but also in psychomotor skills laboratories, and the provision of healthcare services because effective learning takes place in cognitive, psychomotor, and affective domains. It is necessary that theoretical knowledge from a nursing education be transformed into skills that are transferable to clinical situations. Therefore, it is important that learning environments and laboratory training improve the clinical competence of student nurses before they care for patients (7, 8). Simulation is the preferred educational method for acquiring knowledge, developing skills, and improving the clinical competence of student nurses (3). Also, simulation methods contribute to student nurses having more effective communication and critical thinking skills (9, 10).

Critical thinking and clinical judgement are significant and necessary characteristics for nurses to carry out their professional duties. Student nurses can develop clinical judgement skills and evaluate scenarios with the guidance of an instructor in a simulation-based education (11). Through simulation-based education, student nurses gain confidence in executing proper nursing care by transitioning from a student to a professional (9). This educational method helps student nurses learn from their mistakes and how to do proper interventions. In this way, students are provided with a higher degree of academic success and clinical competence (11).

Additionally, simulation laboratories are effective environments for adult learning principles to provide equitable learning experiences for all students. In these environments, students are given an opportunity to prioritize their own learning needs and are supported with feedback (3). In the literature, it is stated that learning environments fostering cognitive, psychomotor, and affective learning techniques are more effective for designing a comprehensive nursing program (12). The use of simulation methods in nursing education in Turkey has been increasing since 2010 (13). Kapucu (14) stated that simulation-based education prepares student nurses for real clinical environments.

Meyer et al. (15) determined that simulation methods improved the clinical performance of student nurses. Similarly, Lindsey and Jenkins (16) determined that student nurses who received a clinical simulation education intervention had higher levels of clinical knowledge and judgement.

Opinion of nursing student are important for developing, organizing and structuring skills training in nursing education. It is thought that determining student nurses' opinions of the low-fidelity simulation method will contribute to the literature and nurse educators. The aim of this research was to determine student nurses' opinions of the low-fidelity simulation method.

Methods

This descriptive research was carried out between April and May 2017 in a skills development laboratory in the Nursing Department of a Health Sciences Faculty in Turkey. The population of the research included the students of the Department of Nursing who were taking the Surgical Diseases Nursing Course. The sample consisted of 54 students who took the course and volunteered to participate in the research.

In this research, a two-part questionnaire was prepared by the researchers to collect the data. There were four questions in the first part of the questionnaire that determined the characteristics of the students. The second part consisted of questions asking about the satisfaction of the students, whether the students thought they were efficient in giving care to an intestinal stoma patient, whether the education with the low-fidelity simulation method was beneficial or not, and for positive and negative comments related to the method. The questionnaire consisted of both closed-ended and open-ended questions. The students answered the questions asking about the satisfaction of their, whether they were efficient in giving care to an intestinal stoma

patient, and whether the education with the low-fidelity simulation method was beneficial or not, as ''yes'', ''moderately'' or ''not''.

The students were asked to write responses to two open-ended questions: ''What are your positive opinions about this intestinal stoma care education with a low-fidelity simulation method?'' and ''What are your negative opinions about this intestinal stoma care education with a low-fidelity simulation method?'' A preliminary application for the questionnaire was presented to the students to ensure there were no questions which could not be understood.

The necessary written permissions were obtained from the Scientific Researches Ethics Committee of the Faculty of Medicine of Trakya University (TUTF-BAEK2017/332–decision number 22/1) and the institution where the research was conducted. The students were orally informed of the aim, context, and method of the research. Oral consent from the volunteers to participate in the research was obtained. Also, the students were assured that the information they provided would only be used for the aim of the research and their privacy would be protected.

The research was carried out by dividing the total sample into eight smaller groups. After the students were accepted to the laboratory, they filled out the first part of the questionnaire form. Next, stoma care education, including the introduction of intestinal stoma care products, was given to the students by the researchers with a low-fidelity simulation method. After the lesson, a scenario was given to the students and each student was asked to perform stoma care.

The procedural steps for intestinal stoma care conducted by the students were analyzed by the researchers and each student was given feedback. After the procedures were completed, the students completed the second part of the form. A box was used to gather the completed questionnaires in order to ensure the opinions of each student were independent and prevent them from being influenced by the researchers and each other.

The scenario

A 50-year-old, female patient has temporary ileostomy. The patient is in the general surgical ward on the fifth postoperative day. The necessary products for intestinal stoma care are available on the table. Please select the products required and provide stoma care.

The data obtained from the research were evaluated in Statistical Package for Social Sciences (SPSS) 20.0 program with descriptive analyses. The positive and negative comments to the open-ended questions were categorized and their frequencies were determined.

Results

It was determined that the mean age of the student nurses participating in the research was 20.07±1.13, 83.3% of them were female (*n*=45), 9.3% took a course related to intestinal stoma care (*n*=5), and 68.5% encountered a patient with intestinal stoma (*n*=37) (Table 1).

It was found that 88.9% of the student t nurses (*n*=48) thought they were efficient in giving care to an intestinal stoma patient after the education using the low-fidelity simulation method. When the satisfaction levels of the students related to the education with low-fidelity simulation method were examined, it was found that 94.4% of them were very satisfied (*n*=51) and 3.7% of them were moderately satisfied (*n*=2). The ratio of unsatisfied students was only 1.9% (*n*=1).

It was determined that 100% of the students answered "Yes" to the question "Did you find intestinal stoma care education with low-fidelity simulation method useful?" Positive and negative comments related to the low-fidelity simulation method are provided in Table 2. It was found that the most common positive comment with a ratio of 40.7% (*n*=22) was the "acquisition of skills through practice'' and the most common negative comment with a ratio of 16.7% (*n*=9) was about "being unrealistic because of low-fidelity."

Table 1. Characteristics of student nurses (*n* = 54)

Characteristics			
Age (years, M ± SD)	**20.07 ± 1.13**		
Gender		**N**	**%**
	Female	**45**	**83.3**
	Male	**9**	**16.7**
Status of taking a course related to intestinal stoma care	**Yes**	**5**	**9.3**
	No	**49**	**90.7**
Status of encountering a patient with intestinal stoma	**Yes**	**37**	**68.5**
	No	**17**	**31.5**

Table 2. The comments of student nurses related to the low-fidelity simulation method

Positive comments*	**N (%)**
Acquisition of skills through practice	**22 (40.7)**
Facilitating learning and providing more effective learning	**14 (25.9)**
Providing the opportunity of an experience without the fear of harming the patient	**9 (16.7)**
Making theoretical and practical knowledge permanent	**9 (16.7)**
Seeing mistakes and receiving feedback	**7 (12.9)**
Recognition of intestinal stoma care products	**6 (11.1)**
Learning procedural steps in detail without time limitations	**2 (3.7)**
Negative comments*	
Being unrealistic because of low-fidelity	**9 (16.7)**
Not observing patient reactions and being unable to have information about patients' feelings	**6 (11.1)**
Not seeing different types of stoma, stoma content, and peristomal complications	**5 (9.2)**

*more than one answer

Discussion

It was found that 88.9% of the student nurses (*n*=48) thought they were efficient in giving care to an intestinal stoma patient after the education using the low-fidelity simulation method. In the research of Çelik et al. (17), 79.6% of the student nurses felt more competent after a practice education using the low-fidelity simulation method. Lin (18) found that learning with simulation methods increased self-efficacy levels of the students related to basic nursing skills of students. Mgbekem et al. (19) indicated that low-fidelity simulation is an effective method to prepare the students for effective and efficient nursing activities in real working environment.

It was found that 94.4% of the students participating in the research were very satisfied with the simulation method. Similarly, Çelik et al. (17) and Lubbers and Rossman (20) found that student nurses were highly satisfied with the simulation experience. Tosterud et al. (21) determined that student nurses viewed simulation as a learning method that instilled self-confidence for their future work. Mohammed and Ahmed (22) found that education with a simulation method increased satisfaction, self-confidence, and skill levels of student nurses. These results show that student nurses are satisfied with low-fidelity simulation methods.

The results of this research indicate that all of the student nurses felt that an education using low-fidelity simulation method was very useful. The most common positive comments pertained to the "acquisition of skills through practice'' with a ratio of 40.7% and "facilitating learning and providing more effective learning" with a ratio of 25.9%. In the research of Özkal and Çayır (23), 89.6% of the student nurses stated that the simulation method could increase their success by providing the opportunity to practice skills, and 87.5% stated that the simulation method allowed students to gain experience without harming patients and fine-tuning new skills by learning from their mistakes.

Mould et al. (24) collected positive comments from student nurses, such as ''the education with simulation methods is fun and valuable (65%)" and "it helps to establish a connection between theory and practice (24%)." In the research by Flo et al. (25), student nurses stated that simulation methods provide good learning outcomes. In the research of Yılmaz and Sarı (26), the student nurses stated that the low-fidelity simulation method had positive effects on peripheral intravenous catheter skills learning, assisted in improving areas of weakness, and prepared the students for clinical practice. However, in the same research, it was found that the student nurses thought the education with low-fidelity simulation method could not allow to feel emotions because the mannequins did not show any reactions to the performed interventions (26). In this research, one negative comment, with a ratio of 16.7%, pertained to simulations "being unrealistic because of low-fidelity." Baptista et al. (27) determined that student nurses thought a high-fidelity simulation method helps them better assessment of the patient and decision-making. According to these results, student nurses consider that a low-fidelity simulation method is useful and provide an effective learning environment to improve their skills, but a high-fidelity simulation method is more realistic.

The results of the research show that student nurses believe low-fidelity simulation was an educational method that improved skills and provided effective learning. Satisfaction levels of the students related to this educational method were high. Based on these results, in order to enhance self-efficacy, improve skills of students, increase their satisfaction levels and provide effective learning, we recommend that low-fidelity simulation method should be used in nursing education programs.

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Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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