

The effect of clinical education on the level of clinical skills of Nursing students

Fereshteh Etemadi¹, Sima Zohari Anboohi^{2*}, Fariba Borhani³, Ehsan Daneshmandi¹, Abaas Abaaszadeh²

¹Student Research Committee, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran, ² Professor, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran, ³Assistant Professor, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Correspondence: Sima Zohari Anboohi, Professor, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

ABSTRACT

Introduction: Clinical education is essential for training professional nurses with independent function in different job positions. In the correct clinical education, the theoretical issues of nursing knowledge are integrated with clinical experiences and facts, the concept of Kartami is taught to students, develops problem-solving skills and increases student judgment and decision-making power. Training is a complex process and any simplicity in which can lead to the loss of forces and facilities and the inability to achieve educational goals or to reduce the quality of education. Development and transformation in education require review of educational processes and knowledge of modern executive methods. This issue is more important in nursing education because nurse education is empowered and has the knowledge, attitude, and skills necessary to maintain and improve the health status of the community. **Method:** This was a quasi-experimental interventional study using a census sampling method in which eight groups of undergraduate nursing students attending a cardiology unit in their fourth semester were selected. Four groups of 9 students were intercepted and trained by cascading ties as an instructor and cascading students. Four groups in the control group, with a non-cascading student instructor were evaluated. Data were analyzed using a key approach test scenario design. The Kolmogorov-Smirnov test, Mann-Whitney test, Chi-square, T-test and exact test were used for data analysis. The Fisher's exact test in SPSS was also used for data analysis. **Results:** Comparison of the clinical skills of nursing students in the two groups of current clinical education and clinical education with the mentioned tests revealed that there was a significant difference in the level of clinical skills of the students in the two groups such that the mean clinical skills of the clinical education group was higher than the prevalence of cascading ($p < 0.001$). **Conclusion:** The results of this study showed that one of the effective factors in increasing the skills of nursing students is the use of cascading student programs that they hope to help learners in the clinical setting. Considering the fact that, in this study, the clinical skills are influenced, clinical teaching was cascading; therefore, the results of this study could be useful for adopting policies of medical universities of the country and especially nursing faculties in order to use a cascade scheme.

Keywords: Nursing education, caspian training, clinical nursing education, clinical skills, nursing student

Introduction

In the study, education, as the basic rights of humans, has been recognized as a factor in social change and development. ^[1] Providing correct education in accordance with the scientific

principles of the day is the only way to achieve the desired levels of learning and enhance the level of satisfaction. It is clear that the realization of educational goals is possible through the use of appropriate teaching methods and techniques. ^[2] In order to improve the students' clinical skills, due to the lack of high-quality clinical environments, the lack of qualified faculty members, in some cases, changes in the clinical education method are needed in the field of clinical training. Nursing, due to the positive points, there are several weaknesses that are directly related to the presence of the instructor, his mastery and his way of operating and management. Hence, the continuous presence of the teacher seems to be necessary in all hours of internship. ^[3] On the other hand, the continuous presence of faculty members due to the inappropriateness of the mentor's ratio to the student has negatively affected his

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education. Therefore, educational methods such as peer education, student-student education and the use of students use higher levels. ^[4] One of the new educational methods in nursing is the cascade method, which is a method for graduate and postgraduate students. In this plan, the implementation plan of the clinical education activity will be determined by the student and the department of education. Each graduate student will be introduced to a number of undergraduate students. He is fully accountable to the college instructor. It is imperative to attend this task timely and accept responsibility and respond to the students. Evaluation of undergraduate students under the supervision of a master's degree student is based on the forms and instructions of the nursing group.

A study was conducted by Lee (2018), which aimed at influencing team-based education on the basic skills of nursing students, the number of participants was 95 in the intervention group and 88 in the control group. In this quasi-experimental study, both groups were 6 Hours (2 hours per week for 3 weeks) in the TBL class and lecture classes. The differences in the main skills between the two groups were compared before and after the intervention. The findings of this study showed that after the intervention, the experimental group had the skill Potential clinical, communicative and self-esteem competencies were more than the control group; therefore, team-based education could be an effective way of teaching core skills that nursing students used. The main skills of nursing students were conducted; after the intervention, the experimental group had clinical, communication competence and self-directed skills as compared to the control group; therefore, team-based education could be an effective way of teaching skills for nursing students. ^[5]

Euregidddy et al. (2016) conducted a study entitled "The satisfaction of nursing students from clinical learning environments," and aimed at examining the level of clinical skills gained at the Cyprus nursing faculties. For data collection, the clinical learning environment, monitoring and the presence of instructors at the Faculty of Nursing and Mann-Resources were evaluated. The presence of the instructor was associated with increased student satisfaction. In this study, the presence and the relationship of retention were influential factors in the student's satisfaction and self-management. ^[6]

In all studies, the quality of education or satisfaction of students with higher semester students at an educational level or by graduated and employed nurses has been examined as a helping hand to the instructor. As active and serious support from higher-level students is social isolation students lower the lower levels and lead to constructive interactions using the experience of faculty members and knowledge of higher-level students ^[7]; therefore, can be more effective and effective in improving educational performance. To achieve this, this research aimed at examining the effect of cascading clinical education on the clinical skills of nursing students.

Materials and Method

This is a quasi-experimental interventional study. In this study, the sampling method was census-based such that all undergraduate students attending the cardiology unit in the second half of the academic year of 2017-2018 were selected as the participants of the study and divided into eight groups; they were grouped by the Department of School Planning. Four groups of students were interviewed in the 3rd day of internship on the terms of the researcher and cascading student, who were trained by the cascade instructor and four groups were placed in the 3rd-week internship in the control group. The study environment was Shahid Modarres Hospital affiliated to Shahid Beheshti University of Medical Sciences, which had undergraduate nursing students undergoing a cardiac training unit in the second year of the academic year of 2017-2018. The data collection instrument included a demographic form including age, gender, term, and student work. In order to assess the clinical skills, a researcher-made questionnaire was developed based on the key function problem approach (KFP-based method) Common clinical cases with emphasis on clinical education goals and cardiac care skills were used Key features of the key problem approach Points to the basic characteristics of a problem. This approach brings people closer to a realistic decision environment. The advantage is that the process, in the long run, the clinical decision is taken into account, and each component of the basic mental processes during the fashion Rate includes a patient's clinical skill common include the following:

The ability to manage patients with chest pain, ability to manage patients with dyspnea, management of patients with cerebrospinal fluid, recognizing common cardiac drugs and side effects of medications, and the ability to interpret normal sinus electrocardiograms; the answers to questions are usually between 10 and 25 items that were categorized in the right, wrong, and middle category. The minimum score of 7 and the maximum student acquisition score of 19 were in this study. The qualitative content validity was used to determine the validity of the scenario questionnaire; the validity of the instrument was confirmed by 10 faculty members of the faculty of nursing. The participants were 74 undergraduate students at the Faculty of Nursing, Shahid Beheshti University of Medical Sciences, in the second half of the academic year of 2017-2018, and were undergoing a course of cardiac training in Modarres Hospital affiliated to Shahid Beheshti University of Medical Sciences. Descriptive statistics (tables, percentage, and mean) were used for data analysis. Data were analyzed using the Mann-Whitney test, Chi-square, T-test and Fisher's exact test. Also, SPSS 20 was used for data analysis.

Results

The statistical analysis showed that the students participating in this research had the following demographic characteristics and the findings of all groups showed the similarity of the groups.

In the general clinical education group, 15 (39.5%) were male and 23 (60.5%) were female. In the cascading clinical education group, 17 (47.2%) were male and 19 (52.8%) were female. There was no statistically significant difference in gender distribution ($p = 0.501$). Therefore, statistically, the groups were peer to peer (Figure 1). In the common clinical education group, 11 (28.9%) had student work and 27 (71.1%). There was no statistically significant difference in the distribution of student work ($p = 0.880$). Therefore, the two groups were statistically comparable in student work (Figure 2) in the most commonly used clinical education, the minimum age was 20 and the highest age was 32 years old with an average of 26.22 and a standard deviation of 3.01. In cascading clinical education, the minimum age was 20 and the highest was 33 years old with an average of 26.62 and standard deviation of 2.66. There was no statistically significant difference in the average age of the groups ($p = 0.852$). Hence, the two groups were similar in terms of age (Table 1).

In table 2, the purpose of this study was to compare the clinical skills of nursing students in two clinical education groups and cascading clinical education in Shahid Beheshti University of Medical Sciences in 2018. Using Chi-square test, Mann-Whitney test, T-test and Fisher's exact test, it was found that in the cascade clinical education group, the lowest level of clinical skills during the training was 10.50 and 18.50, with an average of 14.35 and a standard deviation of 2.6. In the clinical education group, the common practice was the lowest level of clinical skills during training 7 and the highest of 13.75 with a mean of 10.04 and a standard deviation of 1.60. In the clinical education group, the mean of clinical skills was 14.35 with a standard deviation of 2.6 and in the clinical education group the mean of clinical skills was 10.04 with a standard deviation of 1.60. There was a statistically significant difference in clinical skills and nursing students were divided into two groups: conventional clinical education and training), clinical cascading such that the average clinical skills of the Clinical School were higher. ($P < 0.001$)

Students' clinical skills were compared in three areas of specialty management: patient management and pharmacotherapy management. The comparison showed that in the cascading clinical education group, in the management of specific situations, the lowest rate was 5.6 and the highest 11.5 and standard deviation of 1.5 and in the conventional clinical education group, the mean specific status management was the lowest (2.5) and the highest was (75). The standard deviation was 0.92. In the management of patient monitoring in the clinical education group, the cascading method was the highest (2.8) and the lowest (1.7) and standard deviation of 1.1, while in the clinical education group, the highest rate was 2.2 and the lowest was 0.7, with a standard deviation of 1.1. In the field of pharmacotherapy management in the cascade clinical education group, the highest of 4 and the lowest (2.5) with a standard deviation of 1.01 in the clinical education group in the most common way was the highest of 2.8 and the lowest of 0.75 with a standard deviation of 1.8.

Discussion

In the present study, the mean clinical skills of nursing students in a common educational program was lower than cascade method and this result means that new clinical education methods such as cascade training method can provide sufficient opportunity to promote and improve clinical skills of nursing students while the results of the study conducted by Nasiriyani et al. (2005) on self-assessment of nursing students in clinical skills indicated that most students had moderate levels of most skills; hence, the use of the current curriculum did not provide enough time for nursing students' skills. ^[8] Monir et al. (2009) examined the problems of clinical education from the mentors' and students' point of view. The results of the study showed that the apprenticeship plan, however, in order to improve the skills and independence of the student to provide services in different areas of nursing and the views It is positive towards it, but there are several problems That should be taken into consideration. ^[9] In this study, the duties of instructors and students in the department, as well as the number of students for each group, were relatively poor in nursing students' viewpoints, which seems to be solvable by the cascade method. In the present study, after the acquisition of cascading skills, the students' numbers also increased.

Mahdavi et al. (2017) reviewed the effect of the educational model on clinical skills of nursing students. In this experimental study, 23 patients were in the intervention group and 22 in the control group. The clinical skills of nursing students before and after the intervention were studied. The results of this study showed a significant difference between the two groups in terms of clinical skills. ^[4] The results of this study are consistent with the present study. In this study, there was a significant difference in the clinical skills of nursing students in both clinical and cascading clinical education groups; the average clinical skills of the clinical education group was higher than that of the cascade group.

In this study, 60 nursing students in the internal surgery unit were divided into two groups. The first group was divided into two groups: the first group was trained by the clinical education method of teaching and the second group was trained in the conventional way ^[10]. However, in the present study, 74 nursing students in the cardiology unit were divided into two groups, the first one was taught by cascade training and the second group was trained with the conventional method. The results of the study showed that the use of the conventional method is more effective, but the results of this study showed that using an effective cascading method is a common method.

Haji Hosseini et al. (2013) investigated the effect of identical training on the level of the nursing students' clinical skills learning. In this quasi-experimental study, 36 participants were included in the control group and 37 participants were included in the intervention group. The intervention group included the prosthetics practiced and managed by supervisors and control group with the presence of a trainer. In this study, the clinical skills score of students using the same matched method was

similar to that of the control group ^[11] while, in the present study, the mean of clinical skills students using cascading clinical teaching method more the common method of clinical training. In evaluating the clinical skills during cascading clinical education in nursing students of Shahid Beheshti University of Medical Sciences in 2018, it was determined that the lowest amount of clinical skills during the training in the cascading method was 10.58 and the highest rate was 50.50 and the skill level of the clinical course during the clinical education was the lowest of 7 and the highest was 13.75. Also, comparing the clinical skills of nursing students in the two common clinical education and training groups, cascade clinical studies revealed that there was a statistically significant difference in the level of clinical skills of the students in the two groups ($P < 0.001$) such that the average clinical skills of the Clinical School were higher. Comparison of the clinical skills of the students in the two clinical education groups and cascade clinical education shows that the average clinical skills of the clinical education group was 14.35 with a standard deviation of 2.6 and in the clinical education group, the clinical study was 10.04 with a standard deviation of 1.60.

Conclusion: Nursing is one of the most complex and difficult professions that uses its own sciences and skills to promote physical, mental and social well-being. Thus, a nursing student, in addition to acquiring knowledge, needs clinical education during education. ^[12] Therefore, nursing planners consider the most basic part of nursing education as a clinical education. Considering that clinical education is one of the factors that depends on many factors, to have a proper clinical education for nursing students, there should be a special effort on the part of the authorities and nursing educators ^[13]. Clinical education should increase the skills of nursing students; as a result, nursing students are expected to acquire the necessary professional skills through appropriate clinical education during their education. One of the relatively new methods in clinical teaching is the cascade method. In order to reduce the gap between theory and practice, it is better to revise the current clinical curriculum and to use cascade clinical education to increase students' ability to integrate theoretical knowledge into practical skills. The results of the present study suggest that one of the uses of the most influential factors in the implementation of such an exercise Clinical Rhubarb is a cascading scheme that can provide scientific, practical and ethical support for students in a clinical setting. Considering that the clinical skills and social intelligence were influenced by cascading clinical education, the results of this study can be used to adopt the policies of the system of the universities of medical sciences in Iran and especially nursing schools in order to use the cascade design. The results of this research can also be used in the overall planning of medical and nursing education. Also, this study can be beneficial for students and instructors in nursing education. The limitations of this study were due to the time limit of only one hospital and a semester of sampling.

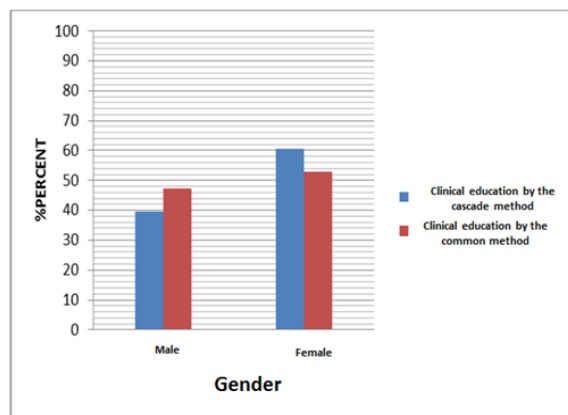


Chart 1. The percentage of nursing students of Shahid Beheshti University of Medical Sciences in 2017-2018 in terms of gender and group

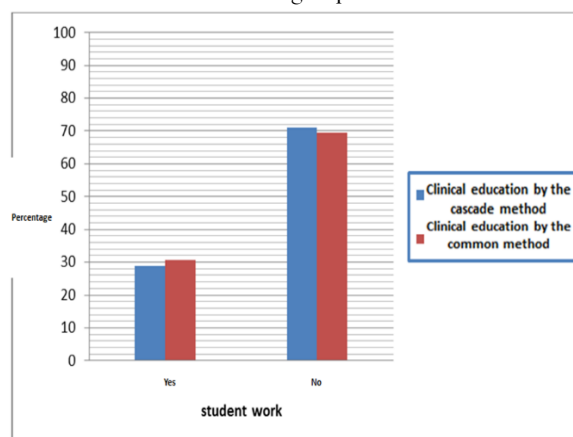


Chart 2. Percentage of Nursing Students of Shahid Beheshti University of Medical Sciences in 2017-2018 in terms of student work and group

Table 1. The average of nursing students of Shahid Beheshti University of Medical Sciences in 2011 in terms of age and group

P value	T value	Standard deviation	average	max	min	number	group
0/852	0/188	3/01	22/76	32	20	38	Clinical teaching in common way
		2/66	22/63	33	20	36	Clinical teaching in a cascade way

Table 2. The average clinical skills of nursing students in two clinical education and cascade clinical education groups in Shahid Beheshti University of Medical Sciences, 2012-2013

P value	Independent t-test	Standard deviation	average	number	group
<0/001	9/98	2/06	14/35	36	Cascade teaching group
		1/60	10/04	38	Common teaching group

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