

Exploring nursing students' experience of peer learning in clinical practice

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ABSTRACT

Background: Peer learning is an educational process wherein someone of the same age or level of experience level interacts with other students interested in the same topic. There is limited evidence specifically focusing on the practical use of peer learning in Iran. The aim of this study was to explore nursing students' experiences of peer learning in clinical practice. **Materials and Methods:** A qualitative content analysis was conducted. Focus groups were used to find the students' experiences about peer learning. Twenty-eight baccalaureate nursing students at Bushehr University of Medical Sciences were selected purposively, and were arranged in four groups of seven students each. The focus group interviews were conducted using a semi-structured interview schedule. All interviews were tape-recorded, transcribed verbatim, and analyzed using conventional content analysis method. **Results:** The analysis identified four themes: Paradoxical dualism, peer exploitation, first learning efficacy, and socialization practice. Gained advantages and perceived disadvantages created paradoxical dualism, and peer exploitation resulted from peer selection and peer training. **Conclusion:** Nursing students reported general satisfaction concerning peer learning due to much more in-depth learning with little stress than conventional learning methods. Peer learning is a useful method for nursing students for practicing educational leadership and learning the clinical skills before they get a job.

Key words: Clinical practice, focus group, Iran, nursing students, peer learning

INTRODUCTION

With explosive increase in knowledge, new technologies, and rapid changes in pattern of diseases, there is concern that

nursing students are not provided with enough opportunities to learn required clinical skills.^[1] To meet this concern, finding effective strategies to improve students' learning, especially clinical learning, always has been considered by nursing professions. Shift in teacher-centered paradigm to student-centered paradigm and replacing the traditional and passive strategies such as mentoring by active strategies such as peer learning are counterparts in the same direction.^[2,3]

Although some benefits have been identified in mentoring students by clinical trainers, such as encouragement, advice, and feedback, the importance of balancing among clinical role, educational role, and scientific preparation has caused many difficulties in mentorship programs.^[3-6] On the other hand, sharing knowledge with others teaching skills has been recognized for registered nurses as core competency. However, peer learning as a strategy in which a group of students involve in the learning process and training the

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other students is increasingly considered in other disciplines of medicine. Unfortunately, evidences indicate that in nursing education, there is less attention given to peer learning over recent years.^[7]

A peer is a student of the same age, group, academic level, or experience level.^[8] The Oxford Dictionary (2009) defines a “peer” as someone of the same age or someone who was attending the same university. The term “peer” can also refer to people who have equivalent skills of different experiences.^[9] Peer learning is also described as a two-way reciprocal learning activity which includes sharing knowledge, ideas, and experiences in a way that has some benefits for both groups of peer and student.^[10]

As a benefit of peer learning, it seems necessary to appreciate friendship in clinical learning environments among nursing students. In other words, more flexibility with students at clinical learning environments in interacting with their peers, whom they trust as friends, can facilitate earlier integration into the students' community and, hence, enable peer learning for support.^[5] In spite of these benefits, unfortunately, there is limited evidence indicating use of peer learning in clinical education in developing countries like Iran.

A review of studies has shown the use of peer learning method in nursing education. Results of most of these studies that have been designed as a quantitative approach indicate that peer learning encourages interaction, facilitates engagement with learning, and increases personal development.^[11,12] At Monash University in Australia, McLelland *et al.*, investigated the benefits of an interprofessional peer-assisted learning for both midwifery and paramedic students. Results revealed that students enjoy peer learning activities and interaction. Also, both groups had a newly found respect and understanding for each other's disciplines.^[13] Besides, another study confirmed the existence of peer effects in a learning process, showing a partner motivational effect even before the actual cooperation took place.^[14] Students can be sensitively encouraged to share their views on participating in peer learning programs, which may well provide important insights into the benefits and challenges presented by student support initiatives as well as offer an outlook onto some important interactional processes influencing learners' educational journeys.^[15] It should be noted that there are some controversies regarding the outcomes of peer learning applicabilities. For example, Brannagan *et al.*, conducted a study evaluating the impact of peer learning on nursing students' perception of learning environment, self-efficacy, and knowledge. Overall, findings differed from previous studies in that the use of peer teaching–learning did not decrease anxiety in the first year students, and, concerning self-efficacy and knowledge acquisition, no differences were found between the two groups receiving either peer tutoring (intervention group) or faculty instruction only (control group).^[16]

In Iran, limited studies have been conducted on nursing students' peer learning.^[17-19] Hemat *et al.*, assessed the effect

of conducting training programs for high school students on the performance of the peers with asthma.^[18] Ravanipour *et al.* investigated the facilitators and barriers in the application of such a method in clinical settings.^[19] Dehghani *et al.* examined the impact of peer educational program on the anxiety of multiple sclerosis (MS) patients. Results indicated that peer group educational program reduced anxiety in patients suffering from MS.^[20] Regarding the mentioned controversies and due to the shortage of studies in the peer learning realm, and based on the results of some studies on the peer experiences and peer learning/teaching processes,^[21,22] this study aimed to explore nursing students' experiences of peer learning in clinical practice.

MATERIALS AND METHODS

To explore the nursing students' experiences of peer learning, a study was conducted with a qualitative research design in 2010. The emphasis of the investigation on the concept of peer learning within the real life context of nursing students in clinical practice was best facilitated using a qualitative research approach, conventional content analysis. Qualitative content analysis is a research methodology and a reasonable tool to describe the quality of a phenomenon.^[23]

Through purposeful and criterion-based sampling, 28 senior BSc nursing students were selected and assigned to four focus-group discussions. Under the supervision of one of the researchers, participants had passed pediatric and neonatal field practices as a peer learning method of field training (just for medication and IV therapy). To ensure that correct information would be given by the peers, on the first day of their training programs, all the students were provided with enough opportunities to practice the mentioned skills (medication and IV therapy) and learn from the lecturer's demonstration. The next day, the peer volunteers carried out some selected nursing cares under supervision, and on the third day, they acted as peer to help others.

In order to collect data, a focus group was used. In nursing researches, a focus group involves a number of people (often with common experiences or characteristics) interviewed by a researcher for the purpose of eliciting ideas, thoughts, and perceptions about a specific topic or certain issues linked to an area of interest.^[24,25]

Focus group interviews were undertaken with each group after finishing their field training at the end of their semester and after the students' grades had been given.

An expert convener led the focus groups to ensure that all members could participate freely. An interview guide of semi-structured questions was used to elicit data. The research questions focused on how the nursing students' experiences of peer learning were compared to usual learning. What aspects of peer learning made the experience either positive or negative for the nursing students? There were some other questions based on their answers. The convener

introduced the outline of processes and aims to the focus groups. Thereafter, participants were encouraged to express their opinions, and were provided with sufficient time to do so. In total, four focus group interviews were conducted, with seven participants in each. A research assistant was present throughout to help with organization, audio-recording, and to write field notes. Data on demographic characteristics, including age, sex, and marital status, were extracted and recorded.

Following the focus group discussion, the interviews were transcribed verbatim. Based on the students' explanations and condensing the codes that emerged, saturation in the categories had been seemingly achieved.

The principles of qualitative data analysis are similar to those of other non-structured or semi-structured interviews. The analysis stages include the following: Finding meaning, condensing, abstracting, identifying content that addresses a specific topic in an interview, and identifying emerging codes, categories, and themes.^[26] Audio-taped recordings of the focus group interviews were transcribed verbatim, and the transcripts were read and reread by the investigators. Notes were made on the thematic and conceptual categories emerging from the transcripts and on the reasons why the categories emerged. Transcripts were then re-examined independently, pursuing the themes and concepts, resulting in the emergence of several subthemes and themes. At each stage of the analysis process, groupings and subsequent themes of the two researchers were compared and contrasted and then independently reviewed by the other one. The researchers discussed the differences and deviations in detail till consensus was reached; all relevant data were then categorized by consensus. Codes were used when presenting participants' quotes. By extracting the essence of ideas and using labels, the interviewers' coded paragraphs and sentences were put into the margin of the transcript. By reducing these codes into larger categories, themes were formed.

To increase the trustworthiness and rigor, the researchers devoted time to collect the information and data. We used

effective communication principles with the participants in this study, returned the coded information to them, and checked the accuracy of the interviews by using all our colleagues' supplementary opinions to ensure that the interview responses were well understood. We also checked the research findings as peer reviews to increase the credibility and confirmability of the research.^[24]

The Research Ethics Committee of Bushehr University of Medical Sciences approved this study for the participants' protection. The students were both talked and written to concerning their information about the study. We ensured them about the confidentiality and anonymity that was maintained by using codes. They were informed about their rights to withdraw from the study at any time with no consequences.

RESULTS

The participants had a mean (SD) age of 22 (1.47) years; majority of the participants were females (91.4%) and single. Out of the focus group analysis, four major themes were obtained: Paradoxical dualism, peer exploitation, first learning efficacy, and socialization practice [Table 1].

Paradoxical dualism

A dual sense of peer learning experience referred to the acquired advantages and perceived disadvantages applied to the nursing students. Thus, peer learning caused an increase in self-confidence, accuracy, and skill in the students' performance and a decrease in stress and practical mistakes. While dependency on others in performing the activities reduces the opportunity to display individual capabilities, from the students' viewpoints, restricted learning ways or making mistakes were the disadvantages of this method. It also seemed these two dual senses rooted from two dimensions: The educational environment and the amount of workload.

Acquired advantages

From the students' viewpoint, the advantages of peer learning were better learning with no stress and reduced anxiety in

Table 1: Nursing students' experiences in peer learning

Themes	Subthemes	Examples of codes
Paradoxical dualism	Gained advantages	Increasing self-confidence Increasing skill and accuracy in work
	Perceived disadvantages	Recognizing the wrong or limited ways Creating a destructive competition feeling in the case of evaluation
Peer exploitation	Peer selection	The scientific features of peers in teaching Individual features of peers in teaching
	Peer training	Teaching peers' features Observing the teaching process of peers
First learning efficacy		Effective method of teaching in the early days on learning Collusion for evaluating each other
Socialization practice		Workgroup practicing Knowledge of self and others' characteristics Respecting others during training

making mistakes. They were largely due to mentors judging the students' practical and scientific disabilities. One of the students said, "When the peer was our classmate, our stress got less; it was easier to talk about our problems to him/her than to the teacher. The teacher could criticize us why we hadn't learned such cases yet. Naturally answering our friends was much easier." The student's comment on accuracy of the work and self-confidence had two aspects: Increasing the accuracy of the work and reducing the mistakes. It consequently increased the confidence due to the work done. But if the students did such things alone, they could increase their accuracy in order to avoid mistakes. Besides, the confidence would increase due to the work done independently.

Perceived disadvantages

The students explained that if peer learning was the only teaching method at clinical settings, there would not be any chance for them to show their capabilities. They added they could get more dependent on the peers if they did not find any opportunity to do the cares independently. Moreover, if the peer is not exposed to independent learning, he/she may acquire the ideas in wrong or limited ways, thus not being able to solve the problems. Another student said, "Although peer can be useful for better group working, this method brings about dependency, especially if one student is weak and the other peer does the duty for him/her; this is not suitable for their future, for they need to do it independently." According to the students, these two dual senses rooted from two dimensions: The educational environment and the amount of workload in the educational environment. Despite passing various hospital wards, it was their first time being a pediatric and infant trainee. From their point of view, due to the high sensitivity of nursing care, this type of work required very high precision. The feeling of not having an opportunity to compensate for the mistakes and being very novice for some cares caused high stresses; thus, they automatically referred to their peer groups for consultation and collaboration to get more support and precision in their cares. Due to the stress and high sensitivity, if any of their peers was weak in performing the duties, they tended not to become his/her peer. One of the students said, "We are dealing with infants and children; therefore, we have to be careful about the quantity of their body liquid and calculating the volume of serum and the number of drops, because unlike the adult's wards, we don't have any opportunity to compensate the mistake. And that's the very reason of our high stress. And if I know that the person who is going to be my peer has done too many mistakes, I try not to be his/her peer anymore." They stressed that for better learning, staff nurses should be in a protective role instead of being as a source of stress for students.

The amount of workload, in the students' viewpoint, was another factor affecting the gained advantages or perceived disadvantages. Another student said, "if the workload gets less, we can act and work more accurately and give more tips to one another."

Peer exploitation

The students maintained that by selecting appropriate peers (based on their scientific capabilities and some individual characteristics which improve the learning process) and training the peers to do their roles correctly, teachers could exploit the best results from peer teaching and learning.

Peer selection

Scientific and individual features were the important factors in students who played the role of peers. Based on the experiences they had with their peers, students mentioned lots of factors that were important in the process of learning. Having enough experience, information, and patience in education helped them correct mistakes, create learning opportunities, and being responsible in true teaching. Among the scientific characteristics of the peers were having a role in monitoring performance and leadership mentoring to teach others. Having speech ability, transferring contents, and showing self-confidence were the individual characteristics of a peer.

One of the students said, "Speech ability is so important because someone may know the subject but can't express what s/he knows. I had this experience myself with two peers who had different speech abilities." Another one said, "The peer's role should be more supervisory than duty performance. One of the problems of my peer was that instead of giving me a chance to do the work, he tried to do all the activities by himself."

Peer training

This subtheme pointed out to the importance of a lecturer's role in the field. This role, according to the students, has many different aspects. These aspects include teaching the features and characteristics of a peer to students, the supervisory role of the individual mentor in the learning process, teaching how to correct the peers' mistakes, adopting active and capable peers in the first days of training, using reinforcement tools, proper warnings, and distinguishing the students with false high confidence and students with ingratiation and flattering manner. One of the students said, "In my opinion, the teacher must supervise the students' activities to see whether the information they have conveyed is really correct or not."

First learning efficacy

According to the participating students in this research, the value and importance of peer learning is regarding to provide a less stressful and more respectful learning environment. Because of the importance of independence in giving cares to the patients, most of the students advocated the early application of this teaching method in learning, after which the process of learning could be handled each student individually. Thus, they consider this learning method to be more effective during the early days of learning. Because of the students' high collusion in giving high scores to each other, their inability to have a comprehensive approach, and their consideration of different aspects of the evaluation, they assumed that peer assessment roles were inefficient.

They added that in the case of necessary assessment, it would be better that the peers give only a small percentage of the total evaluation score. The trainer bases both processes of education and training for the peers on predefined educational objectives.

One of the students said: "The teachers should assess the students individually. However, it would be better if the teachers make a comparative assessment of the students' work with that of their peers; this is due to the fact that some students' group work is better than their individual performance."

Socialization practice

Most of the students mentioned this as teamwork learning which helped them identify their own and their peers' characteristics much better. Moreover, there were some points showing the socialization process of students, i.e. students' awareness of their negative characteristics and the ways to control or overcome them while working with others, respectful training, and preserving the peers' characteristics, condemning jealousy or humiliating peer groups' mistakes. One of the students said, "I believe we should train our peer students in a completely sympathetic friendly way to learn something, not teasing the peers for training them. Because if they were to know everything, why would they need to have peers?"

DISCUSSION

Paradoxical dualism, peer exploitation, first learning efficacy, and socialization practice have emerged from students' experiences as concepts of peer learning. According to the participants, dual role of the environment, type of the work and peers in creating stress, or quite the opposite, maintaining a secure environment for students, brought about a kind of stress for them.

There are so many sources of stress in the hospital or social health environments, such as too much workload, insufficient staff to support practitioners, inadequate communication, secrecy, lack of trust, and so on.^[27] The findings of a study reveal that peer practice learning undertaken in a safe controlled environment enhances the realism of the experience, and therefore, will increase the likelihood of students engaging in the learning process.^[28]

The students of this study had pointed out some of the advantages of peers. One of the most positive outcomes due to the effectiveness of peer teaching and learning, according to some studies, was the students' increasing confidence in clinical practice and improved learning in the psychomotor and cognitive domains.^[29,30] Feedback from participants in near-peer teaching suggests that the program fulfills its aims of providing an effective environment for developing deeper learning.^[8] The students who participated in peer learning clinical teaching strategy claimed it to be mutually supportive, cooperative, and collaborative, and also to have grown in

both the diligence and precision with which they approached their own practice and in the personal confidence with which they made clinical and practice decisions.^[31]

The students who participated in our study were completely relying on learning from their peers and had taken this seriously as they expected an educational role from their peers like from their own teachers.

One of the important points about role-playing is that students, after some self-consciousness about the role, quickly settle down to project their own character and values into the role.^[27] It is the role play element of peer practice learning that also appears to provide some of the wider benefits highlighted in the study, such as increased empathy, improved communication skills, and enhanced decision-making ability.^[28] The findings of another study reveal that the third year nursing students who play the role of peers for the first year students commented that the peer learning experience gave them an opportunity "to review their skills," allowing them to "evaluate their knowledge base," whereas the first year students focused on the personal attributes of the third year students, rather than their teaching ability, with comments such as "my third year student was a friendly partner who was very patient with me."^[29] In some cases, it is thought that there are links between confidence and learning, as students who are confident are allowed more access to patients.^[5]

From the students' point of view, this educational process had some disadvantages also such as lack of any chance for them to show their capabilities, acquiring the ideas in wrong or limited ways from peers, dependence on peers, and so on.

There can be some disadvantages in the form of competition, along with feelings of being misunderstood leading to hurt and making unhelpful comparisons with others in peer-assisted ways.^[15] There are also many serious barriers to mentors that include difficulty of role modeling care work in the context of nursing roles which are increasingly concerned with more technical work.^[4]

For peer exploitation, teachers could exploit the best results from peer teaching and learning. Despite expecting a mentor-like role from the peers, it did not diminish the role of the teachers. Moreover, it increases its importance and students expect their teachers to provide the background process of education of the peers. The students in our study pointed out to the need of clinical teacher for supervising the process of teaching by peers.

A systematic review of peer teaching and learning in clinical education suggested that the students evaluated their own learning and reported increased confidence in leadership roles when working with a peer.^[30] It has also been emphasized that students adopting the peer mentor role get some benefits like leadership and teaching skills from peer teaching and learning experience.^[31] Effective management of clinical skills learning and teaching in simulated environments is therefore crucial.

Peer practice learning should only occur with a small number of students for one facilitator to enable the facilitators give the evident support required.^[28] As a limitation and negative aspect, personality and learning style of students should be appropriate to peer learning. Also there is a risk that students spend less time with their instructor.^[30]

Most of the students regarded this method to be effective in learning and spoke with resistance against the evaluation process done by peer assessment.

Peer assessment is useful for assessing practical skills; but one of the problems with any kind of peer assessment is the potential for collusion among the students to raise the level of marks. One of the solutions to this problem is to use peer assessments as feedback rather than as final grading, to ensure honesty of the feedback.^[27] Findings of a focus group discussion on nursing students' experiences of formative assessments indicate that nursing students are not being prepared for the critical feedback associated with peer review and they may, therefore, be vulnerable to the process and outcome of peer review.^[32]

In fact, the students had gained a kind of respect to the values and received new social roles.

The process by which an individual undergoes induction into these expected behaviors or roles is termed socialization. Secondary socialization begins as the child commences school, influenced not only by teachers but also by peers; occupational socialization involves induction into specific occupational roles after leaving school.^[27] In a study about exploration of reflective groups, it was revealed that being able to reflect on real life experiences helped the students to recognize that others had similar experiences to their own and these "interconnected experiences" made them realize that they were not on their own.^[33] Students involved in the peer mentorship programs might offer important illustrations of the critical aspects of pastoral and social support.^[15] Another group of students explained their friendship and peer learning in clinical practice as valuable sources of information, which was the result of asking questions about the culture and convergence of each other, particularly when they found themselves alone or when their mentors were busy elsewhere.^[5]

Finally, it seems students in our study were interested to change their clinical groups based on their changed friendship and the effects of group atmosphere and team work during their educational carrier. Similarly, in many nursing programs, it has resulted in changed membership of the learning communities in every semester, allowing students to work with different peers during each clinical rotation.^[34]

CONCLUSIONS

This study sought to explore the common reasonable perceptions of peer learning typically designed to support

better learning in clinical settings. There is some evidence that students' learning is facilitated if peer learning in clinical settings can be followed, as it may improve in-depth learning with less stress, role satisfaction, and create a positive environment in which students can learn appropriate practices. Besides, the findings depict a general satisfaction among the participating students from peer learning in both direct learning outputs and indirect (hidden) learning outputs.

While role transition to advance practice is a key priority for the development of effective health care programs around the world, our findings support the nursing students' role transition to educational leadership and teaching others, along with socialization.

Based on our findings, it seems this method of learning can be utilized in learning practical and laboratory techniques in fields such as biochemistry and microbiology, or in the operating room for students of different disciplines such as medical, nursing, environmental health, biology, etc. It suggests the teachers to determine the level and amount of support of peers required in clinical settings by the students, based on their year of education and level of excellence in practice, and then assess its outputs on the students' level of learning. It seems this will help to facilitate a student-centered method of learning in clinical settings, especially for disabled students or with students with a learning difference.

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