

IRANIAN NURSING STUDENTS' EXPERIENCES OF CASE-BASED LEARNING: A QUALITATIVE STUDY[☆]

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The purpose of this study was to explore the experiences of undergraduate nursing students of the implementation of case-based learning in an emergency nursing course. The present qualitative study was conducted using the qualitative content analysis method. Participants consisted of 18 third year undergraduate nursing students selected through purposive sampling, which continued until the saturation of the data. Data were collected using semistructured interviews and were analyzed concurrently with their collection through the constant comparison method. The process of data analysis led to the emergence of 4 main themes, including “the continuum of knowledge from production to transfer competence,” “a positive atmosphere of interaction,” “the process of stress relieving,” “the sense of role-playing in professional life,” and the emergence of 12 subthemes signifying participants' experiences and perceptions with regard to the implementation of case-based learning (CBL) in teaching the emergency nursing course. The results of the present study showed that CBL is a stressful but pleasant and empowering experience for Iranian nursing students that develops critical thinking and stress management skills, reinforces peers' potentials, improves diagnostic abilities, and helps acquire professional competencies for use in future practices through the creation of a positive environment. (Index words: Case-based learning; Nursing education; Qualitative research) J Prof Nurs 33:241–249, 2017. © 2016 Elsevier Inc. All rights reserved.

NURSING TEACHERS ARE always struggling to find the best way to prepare nursing students for providing patient care in complex health care settings. As future nurses, nursing students should be able to work

collaboratively with their colleagues, analyze data, interpret results, think critically, reason, and make complex decisions (Majeed, 2014). The latest calls for nursing education reform emphasize a shift from traditional to constructivist or experiential curricula, and because case-based learning (CBL) combines constructivist and experiential approaches, the development of professional skills such as problem-solving, clinical reasoning, and knowledge transfer are more immediate based on such theories (Kantar & Massouh, 2015). CBL is an interactive, student-centered exploration that begins with the illustration of real-life situations and promotes authentic learning (Huang, Chen, Yeh, & Chung, 2012; Yoo & Park, 2015). Active learning methods such as the use of case studies encourage students to express and experiment with their ideas and, thus, improve their critical thinking skills (Hofsten, Gustafsson, & Häggström, 2010; Popil, 2011).

Review of the Literature

Studies conducted by Facione et al. propose that case studies can improve affective dispositions toward critical thinking, particularly toward self-confidence, analysis, and

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inquisitiveness (Huang et al., 2012). In a study conducted in South Korea, CBL was found to improve subjective and objective problem-solving abilities in freshly graduated nurses (Yoo & Park, 2014). Through the process of problem-solving, nursing students learn how to make mind-maps by themselves and to think more systematically (Klunklin, Subpaibongid, Keitlertnapha, Viseskul, & Turale, 2011). In a qualitative study conducted in Lebanon, three learning practices were developed in nursing students through CBL, including recognizing the particulars of a clinical situation, making sense of patient data and making informed decisions, and reflection (Kantar & Massouh, 2015). Dinc and Gorgulu also proposed the case study as a suitable method for teaching nursing ethics that facilitates the understanding of ethical theories and philosophical principles; their results also showed that the case study helps nursing students analyze the nature of moral problems and distinguish them from nonmoral problems (Popil, 2011). Although other studies have also discussed different CBL challenges, including the teachers' inadequate knowledge and experience of CBL, their resistance to change, the students' lack of readiness (Abou-Zaid, 2014), and the problems associated with the students' ability for performing teamwork, a review of literature suggests the effectiveness of this method in training students in fields of nutrition (Harman et al., 2015), medicine, and nursing in Europe, Australia, the US, and some Asian countries such as South Korea (Yoo & Park, 2014).

The results of a quasi-experimental study showed that CBL facilitates undergraduate nursing students' development of communication and problem-solving skills and enhances their motivation for learning (Yoo & Park, 2015). The limited number of qualitative studies conducted have reported CBL to be a very effective method. In one study, Hofsten et al. explored the experiences of nursing students and showed that the case study opens the doors to deeper understanding (Hofsten et al., 2010). Despite the strengths of CBL in helping nursing students prepare for their future practice and provide evidence-based care (Abedini, Ahmari Tehran, Khorami Rad, & Heidarpour, 2011), some Asian countries such as Iran mostly use nonactive teaching methods (Ghafourifard, Hariryan, Aghajanloo, & Ghanei, 2013) in the education of undergraduate nursing students, including lectures, practical exercises, and tutorials, which do not help develop their clinical reasoning and problem-solving skills (Majeed, 2014). A number of local schools have recently adopted CBL to train their nursing students; however, it is not yet clear whether this method meets the students' requirements or not because there is little evidence on the design, effectiveness, and evaluation of these new learning methods (Ghafourifard et al., 2013). Previous examinations of CBL have mostly focused on the students' attitudes or levels of knowledge (Yoo & Park, 2015) and the structure of case studies (Kantar & Massouh, 2015). Compared with problem-based learning (PBL; open inquiry), CBL (guided inquiry) has not yet been outlined specifically for nursing education (Hofsten et al., 2010). Some researchers have therefore recommended further

examination of the rich experiences of nursing students of CBL (Ghafourifard et al., 2013; Yoo & Park, 2015). The experiences derived from this method of learning is formed in the particular sociocultural context within which each individual lives and cannot be assessed with mere quantitative methods. Qualitative research methods can yield a better understanding of the subject (Noohi, Abaszadeh, Seyed Bagher Maddah, & Borhani, 2013). Nevertheless, given that studies have mostly assessed CBL outcomes with quantitative tools, which do not provide a profound understanding of the students' experiences of CBL (Yoo & Park, 2014, 2015), the aim of present study was to explore the experiences of third year undergraduate nursing students of the implementation of CBL in teaching an emergency nursing course. Understanding the students' experiences of CBL through qualitative studies is an effective step in the evaluation of the application of the method in nursing students' curricula.

Materials and Methods

Design

The present study is descriptive-qualitative in design and uses the conventional qualitative content analysis approach. Qualitative content analysis is a good method for finding results with variability and reliability from the textual data so as to produce knowledge, form new ideas, present the facts and provide practical instructions for an improved performance (Elo & Kyngas, 2008). This method focuses on the experiences, interpretations, and meanings of life as encountered by individuals (Pope, van Royen, & Baker, 2002).

Study Subjects

The study subjects included 18 third year undergraduate nursing students from a cohort of 60 who had taken an emergency nursing course taught based on CBL and held 2 hours per week over a 16-week semester in 2015. The students had not been previously trained in new teaching methods such as PBL or CBL. The students were invited to take part in the study over e-mail and were recruited through purposive sampling (Holloway & Wheeler, 2010). The study inclusion criteria consisted of being a third year undergraduate nursing student with experience in the topic of interest, being willing to share one's experiences and having a stable mental state for establishing relationships. The study exclusion criteria consisted of an unwillingness to take part or share experiences.

Educational Setting

The present study was conducted at the School of Nursing and Midwifery in Khorramabad (the capital of Lorestan province in the west of Iran) affiliated with Lorestan University of Medical Sciences (LUMS), where theoretical subjects were mainly taught in the traditional way. However, in recent years, a number of professors at this school have used PBL and CBL to teach their undergraduate and postgraduate students. The emergency nursing course under examination was taught by the present study's first author using the CBL method. The

case studies were designed by the first and second authors based on their years of clinical experience and ongoing PBL and CBL training. During the PBL sessions, cases that required emergency care were analyzed mainly with an emphasis on clarifying the eight domains of nursing, including performing a triage and an assessment, identifying the existing problem, providing a history of nursing, providing data on the disease, making a diagnosis and giving medical instructions, making a nursing diagnosis, and providing primary and critical nursing care and the intervention outcomes and test results.

Data Collection

Data were collected using in-depth semistructured interviews. Interviews were conducted 1 month after the PBL sessions were over. All the interviews were conducted individually by the second author in Persian and in a private quiet room at Khorramabad School of Nursing and Midwifery. Interviews were scheduled in agreement with the students' preferences. Broad questions were posed at the beginning of the interviews, such as "How did learning through CBL make you feel?" and "Would you like to talk about your experiences of learning through CBL?", and continued with guiding questions. To ensure the careful recording of each word uttered by the participants, the interviews were voice recorded in MP3 format and transcribed verbatim in Microsoft Word. Each interview lasted between 35 and 50 minutes. The collection of the data lasted from April to May 2015 and ended when theoretical saturation of the data was achieved (Holloway & Wheeler, 2010). The interview texts were translated from Persian to English and then back-translated by bilingual researchers for accuracy.

Data Analysis

Analysis of the data was carried out concurrently with their collection using the five-stage method proposed by Graneheim and Lundman and included the immediate transcription of the data after each interview, the review of the whole interview texts for reaching a general understanding of the content, determining meaning units and initial codes, the classification of similar initial codes in broader classes, and determining the content hidden in the data (Graneheim & Lundman, 2004). Each interview was thus transcribed and typed up immediately after completion and then reviewed several times. Initial codes were extracted, combined, and classified based on their similarities and through the constant comparison method. The concept and content hidden in the data were ultimately extracted, and the final codes, classes, and themes then emerged with the research team's criticizing, analyzing, and grouping of the codes.

For the rigor and trustworthiness of the data, four criteria were used, including credibility, confirmability, dependability, and transferability (Streubert & Carpenter, 2011). The credibility of the data was ensured through the confirmation of the statements made by participants, the

allocation of sufficient time for data collection, ongoing involvement with participants, and conducting the interviews in locations of participants' choosing. The confirmability of the data was ensured through sending the interview texts and extracted codes and classes for external check and their review and analysis. The dependability of the data was ensured through the immediate transcription of the interviews and through providing all participants with similar conditions. The interview texts, codes, and classes were confirmed through a member check. So that derived themes and subthemes were evaluated by three students to verify whether the results reflected their experiences or not. The transferability of the data was ensured through maximum variation sampling.

Ethical Considerations

Permission was obtained from the ethics committee of LUMS. The study methods and objectives were explained to the students, and their written consent for participation in the study was then obtained. Participants reserved the right to withdraw from the study at any stage and were also ensured of the confidentiality of their data and the availability of the final results for their personal study.

Results

Of the 18 participating third year undergraduate nursing students, 11 (61.1%) were female, and 7 (38.9%) were male. Participants were aged 20 to 22. Four main themes emerged from the analysis of the data. At first, 210 codes were extracted from the in-depth descriptions provided by participants. After the ongoing analysis and constant comparison of the data, four main themes finally emerged, including "the continuum of knowledge from production to transfer competence," "a positive atmosphere of interaction," "the process of stress relieving," and "the sense of role-playing in professional life," along with 12 subthemes conceptualized as the students' experience of the process of CBL. Table 1 explains the emergence of these themes and subthemes.

Theme: The Continuum of Knowledge From Production to Transfer Competence

Participants' experiences of CBL showed that this approach enabled the students to engage in the individual production of knowledge and the acquiring of clinical reasoning and critical thinking skills and to then apply these skills in clinical settings independently and in the absence of the teacher. This theme consisted of four subthemes, including "the engagement of the senses," "in-depth mental information processing," "the development of knowledge and learning skills," and "providing care independently."

The Engagement of the Senses

The majority of participants stated that the scenarios attracted their full attention as they tried to both listen to the patient and read their history. Nevertheless, presenting the case through anecdotes and videos was more interesting to them and led to their better understanding

Table 1. Themes and Subthemes Associated With Nursing Students' Experiences of CBL

Main Theme	Subtheme
The continuum of knowledge from production to transfer competence	The engagement of the senses In-depth mental information processing The development of knowledge and learning skills Providing care independently
A positive atmosphere of interaction	Balance in participation Facilitator's supportive role Synergistic effects on the team
The process of stress relieving	The feeling of anxiety Practicing stress management Feeling empowered
The sense of role-playing in professional life	Understanding one's own professional identity Identifying with the role

of the case. One participant explained, "since I knew there would be questions on this case, I listened carefully and took notes to understand better...occasionally, a case was screened and everyone would become even more interested."

Participants related better to real scenarios, and such anecdotes had the effect of engaging them better in the process of learning and eventually lingered longer in their head. One participant described his experience of this subject, "I remember one story about a nursing student who exercised hard and sweated a lot and developed a syncope. I related very much to this story and could feel it sort of up-close; so it stuck in my head like a memory."

In-Depth Mental Information Processing

The students' experiences showed that they tended to carry out processes of in-depth thinking and mental data processing for responding to the questions and for presenting solutions to the situations or the problems that had arisen after the engagement of their senses. The students experienced brainstorming and tried to retrieve any old data they had previously stored in their head. One participant described this process, "All the knowledge you have and all the things that you have learned so far rush to your head as you try to decide which (previous knowledge) to use for this particular case...you search your brain for all the things you have learned so far."

The students sought to find solutions to different cases through inner talks and their imaginative powers. One participant described this experience, "One of the cases was about a woman who had experienced pelvic trauma...I visualized the symptoms of pelvic trauma in my head and linked them all together and kept thinking if these symptoms could be due to uterine damage. But then I thought to myself, 'don't get it wrong, it may have to do with bladder rupture.'"

The Development of Knowledge and Learning Skills

Through the process of CBL, participants had acquired a range of emergency nursing skills and knowledge. Self-study and searching for data in several sources were the main factors involved in the acquiring of this

in-depth knowledge. One participant said of this experience, "We had to read books and articles and search the internet for cases similar to the case we were presented with. And so our knowledge of spinal trauma care improved significantly and was no longer superficial. We had realized what spinal trauma care meant on a profound level."

The majority of participants had experienced making nursing diagnoses and even medical diagnoses; the development of their critical thinking skills, judgment, and ability to perform a comprehensive assessment of the patient; and gaining a systematic perspective on the case. One participant described his experience of this issue, "When the case was being presented, I immediately thought of the term *critical thinking*. We had to link together hemodynamic status and respiratory data and even diagnostic tests, and then interpret and analyze this data, which obviously helped develop our critical thinking skills...I was able to present a medical and nursing diagnosis with the package of data I had on hand."

Providing Care Independently

Using the knowledge and skills learned through CBL helped some of the students to provide real emergency care independently. One participant discussed his experiences of linking theoretical information to clinical practice, "We have a lot of information about emergency nursing, but, in practice, we don't do much for the patient who needs emergency care...in case studies dealing with pneumothorax and hemothorax, I learned how vital it is to make a quick compression dressing for a chest wound and will never forget this. Just recently, I performed this emergency procedure on a patient with chest trauma once more."

Another participant described his developed abilities, "We experienced with a case of ventricular dysrhythmia in the classroom up-close, and now I know the least basic care I should provide for cases of dysrhythmia in the emergency room. I can even recognize a case of ventricular dysrhythmia from afar just by looking at the monitor."

Theme: A Positive Atmosphere of Interaction. Because of factors such as the development of interpersonal relationships, receiving the teachers' support, and participation in debates, the learning environment had become very constructive and stimulating for participants. This theme consisted of three subthemes, including balance in participation, facilitator's supportive role, and synergistic effects on the team.

Balance in Participation

Participants believed that CBL sessions enabled the participation of both strong and weak students from both genders in class discussion and also created a balance between the teachers' and the students' role in the classroom. One participant discussed the equal opportunity CBL sessions provided for participation in group discussions, "In case study sessions, the students might be asked questions at any moment, whether they are weak or strong, male or female. Everybody would be asked questions and the whole class was involved. Even the very quiet students got involved in debates."

Some students perceived CBL sessions as the perfect example of student-centered learning. One participant argued, "CBL was not teacher-based, since both the teacher and the students were involved in a balanced form of interaction. For instance, our group commented on hypoglycemia care and the teacher merely added a complementary remark, and so I sensed that a balance was actually established between the students and the teacher through this method of teaching; an advantage of case study sessions was that everybody listened to what the students had to say in them too."

Facilitator's Supportive Role

Participants perceived the facilitator's management of CBL sessions and his role in engaging the entire class, providing positive feedback, and establishing respectful relationships with the students as positive and constructive. One participant said of the facilitator's role, "The teacher managed the classroom very efficiently and engaged all the students; he encouraged everyone to ask questions or provide solutions. My diagnoses were wrong a number of times, but I was still encouraged to keep providing solutions...and so I commented on the subject of each of our discussions without any stress, all the while feeling utterly relaxed."

Participants' experiences showed how important the facilitator's role is in reducing stress and encouraging the students' greater participation in the discussions. The facilitator's feedback about the students' comments made them learn of their weaknesses and strengths and encouraged them to try to improve their skills. One participant said of the facilitator's feedbacks and respectful behavior, "The teacher respected our views very deeply and welcomed our comments. Even when my nursing diagnosis was wrong, he said that I had understood the patient's problem very well, but that I had to focus more on the patients' symptoms and signs. And that was exactly what I did for the next case."

Synergistic Effects on the Team

Participants' experiences showed that teamwork and peer interaction within the team led to the development of interpersonal relationships, the reinforcement of peers' capabilities, and the creation of positive feelings and an environment of mutual learning. One participant said about improving relationships and solving interpersonal conflicts, "Even though we had been taking the same classes for three years, some of the guys still didn't know one another. Some of them even had problems with each other. But case studies put us in the same team together and everyone had to make efforts toward a common goal, and so the relationships between us got much better and friendlier, and now we know each other better."

One participant discussed taking advantage of others' potentials and capabilities and improving one's managerial skills, "One of our team members had clinical experience, and taught me a lot about pain management in acute cardiac arrest, and I helped him in return and taught him how to search databases for papers. We learned a lot from each other and also learned that we should divide the tasks between us in a team. The whole thing was an enjoyable experience."

Theme: The Process of Stress Relieving. At the beginning of the CBL sessions, participants had negative feelings of confusion and fear about the method; however, as the class progressed and the nature of this method was better perceived, these feelings of stress diminished and were replaced with positive feelings. This theme consisted of three subthemes, including the feeling of anxiety, practicing stress management, and feeling empowered.

The Feeling of Anxiety

Because of lack of familiarity with CBL, fear of being judged by the facilitator, fear of making mistakes during teamwork, and the lack of expertise on the subjects discussed in the case studies made some participants feel stressed and uncomfortable. One participant revealed, "I was very stressed and didn't feel good about the class at the beginning. Because it was a bit difficult for me to talk in front of others in the class. I hadn't talked in front of the class once during these six semesters. I was stressed and feared giving the wrong answer."

Another participant described his feelings of confusion and stress, "I had no mastery over the cases, and couldn't analyze a large volume of the data presented with the case, and felt confused...I was worried about the teacher's opinion of myself, that he might consider me lazy and stupid. I even didn't sleep for a couple of nights for fear of my wrong analyses."

Practicing Stress Management

Participants perceived their frequent presence in front of the class and participation in teamwork as an opportunity to practice stress management. One participant said, "Case studies were the best solution for those who felt stressed, because it was a de-stressing process. I was

stressed when I had to stand in front of the class, but the presence of other team members with whom I had already debated things in group discussions helped a lot and gave me a much-needed peace of mind, and so I answered just like everyone else and then I was okay with making mistakes.”

Another participant said, “I was not comfortable at first, and could not communicate my knowledge. But over the next sessions, I got used to these Q&As, and got to analyzing and commenting on the subject every single session. In later sessions, I could even present on my own.”

Feeling Empowered

With the gradual reduction in levels of stress over the course of the CBL sessions and because of having been able to participate in the process of learning, participants felt empowered and capable. One participant who had previously felt stressed said, “I was no longer stressed during the last sessions of the class and could comfortably propose my solutions. The teacher or classmates' welcoming my views had made me feel like a capable member of the group. I felt that the solution was mine, that I had reached it with my very own knowledge.”

Some participants had experienced a combination of anxiety and frustration; however, they eventually managed to feel more self-confident. One participant confessed, “I was worried about making a mistake, and when I did, I felt I had lost something. But gradually, I thought, well I can comment too, without others laughing at me, even when I have made a mistake.... Now I am no longer stressed about this stuff and my self-confidence is higher.”

Theme: The Sense of Role-Playing in Professional Life.

Participants' experiences showed that they were so engaged in learning that, in addition to fully understanding the values and responsibilities of nursing, they also actually imagined themselves an emergency nurse at the moment they were simply presented with a sample case. This theme consisted of two subthemes, including understanding one's own professional identity and identifying with the role.

Understanding One's Own Professional Identity

Participants' experiences with emergency cases had made them perceive emergency nursing as a specialized and vital responsibility requiring teamwork. Case studies involving problem-solving in emergency situations had developed this feeling in them. One participant said about the vital and specialized role of an emergency nurse, “We had one case of a cancer patient with acute pulmonary edema. To save this patient, nurses should act quickly and be specialized in cardiac and cancer care. This is when I realized how vital the role of an emergency nurse is for saving the patients' life.”

One participant discussed the responsibility of nurses for providing safe care and cooperating with the doctor (teamwork), “Once we had an emergency case who had

become hypoglycemic and gone into a coma because of the doctor's mistake in properly assessing his conditions. The nurse was also responsible and had neglected to perform a triage and assess the patient. It is crucial that emergency nurses and doctors work as a team.”

Identifying With the Role

The experiences of most participants showed that they had developed a close relationship with the cases brought up in the case study sessions and that they imagined themselves as an emergency nurse who had to act quickly. One participant said about these imaginations, “When I heard about the case, it was as if I was at the patient's bedside, and felt like I was an emergency nurse who had to decide and act quickly to save my patient.”

Another participant also described his experiences of the subject, “I felt I was at the scene of a car accident. It was a very live experience to me. I felt I had to perform prehospital procedures quickly to save the injured.”

Some participants had even managed to feel the stress of emergency conditions just through case studies. One participant described this experience, “I was faced with a stressful situation through these cases and felt stressed like I was really an emergency nurse. I thought to myself that I had to act quickly to assess, decide on and manage this critical situation.”

Discussion

The present study conceptualized four themes as nursing students' experiences of CBL, including “the continuum of knowledge from production to transfer competence,” “a positive atmosphere of interaction,” “the process of stress relieving,” and “the sense of role-playing in professional life.” According to the results, the continuum of knowledge from production to transfer competence was conceptualized as a dynamic process of in-depth thinking and the development of professional skills. Although this concept did not emerge in other studies, in a study conducted by Majeed, the students' feedback showed that CBL can be an important facilitator of skill acquisition for professional problem-solving in nursing care. In the same study, 69% of the nursing students reported that CBL helps them apply their basic knowledge to clinical situations (Majeed, 2014). In a qualitative study conducted by Klunklin et al., the concept of self-development was taken to signify nursing students' teamwork abilities and the development of problem-solving and management skills in them through participation in CBL sessions (Klunklin et al., 2011). Evidence also suggests that CBL improves the students' abilities for clinical reasoning, diagnostic interpretation, and logical thinking (Majeed, 2014). These findings can be justified by noting that, when students accept student-centered methods of learning and teaching, they are in fact forced to develop their thinking skills in a more systematic, creative, and conceptual fashion and to then link ideas together to see the overall context of the given problem. The basis of acquiring knowledge and skills is the in-depth mental processing of information in

the form of reflective thinking and through an interest in CBL. For the same reasons, other studies have also reported the development of cognitive skills such as the careful measurement and safe administration of medication doses in nursing students following CBL sessions (Saleem, Tabassum, & Asif, 2014).

Diagnostic abilities comprised another cognitive ability that was frequently described by the present study's participants. Other studies have also noted the benefits of CBL for different purposes, including illustration principles, diagnostic processes and outcomes, examination of the link between clues and the diagnosis, and the analysis of diagnostic possibilities (Raurell-Torreda et al., 2015). These findings suggest that CBL helps improve competencies, which make up a nursing student's ability to integrate and apply his knowledge, skills, judgment, and personal attributes to practice safely and ethically in a designated role and setting (Ghafourifard et al., 2013; Raurell-Torreda et al., 2015).

A positive atmosphere of interaction constituted another main finding of the present study. This concept refers mainly to the supportive role of the facilitator and peers in the process of learning. Other studies have argued that nonjudgmental, encouraging, open-minded teachers can help develop the students' critical thinking skills (Chan, 2013). The vital role of teachers in the development of students' professional competencies cannot be denied; however, in the case of CBL, teachers should possess a positive attitude and adequate knowledge and skills in order to be able to create a safe and harm-free learning environment for the students (Hofsten et al., 2010). The role of peers and the synergistic effects of teamwork comprised another factor for the formation of a positive learning environment in the present study. In one study, peer support and the experience of teamwork were discussed as "understanding social learning" and as an opportunity to demonstrate empathy, develop communicational skills, present feedback, and transfer good and bad knowledge to other students (Ramm, Thomson, & Jackson, 2015). The study conducted by Klunklin et al. conceptualized the receiving of positive feedback from the facilitator and the exchange of knowledge and information in the team as "the seeking of assistance" (Klunklin et al., 2011; Solomon & Finch, 2009). Another concept that emerged in the present study was balance in participation, which has less been discussed by other studies. However, this concept might inherently refer to the distribution of power and the establishment of proper teacher-student and student-student interactions. A positive environment of learning is created in CBL sessions when the supportive role of the facilitator, teamwork, and the creation of equal opportunities for participation is emphasized.

The results of the present study showed that CBL is experienced by students as a stress-relieving process, as the first CBL sessions were associated with a lot of anxiety for the students, while they managed to feel more empowered as the class progressed. Although other studies have not discussed the destressing effects of

CBL, their findings show that students experience positive and negative feelings when faced with new teaching methods. In a qualitative study conducted by Solomon and Finch, uncertainty about the depth and extent of the knowledge and time required for self-directed study, the misunderstanding of PBL and the role of the teacher, and the distrust in one's own abilities were identified as stressors related to adapting to PBL in physiotherapy students (Solomon & Finch, 2009). In another study, nursing students had difficult experiences of learning through the case study method. Nevertheless, they believed that investing in this method was a worthy undertaking (Hofsten et al., 2010). Although some other studies reported negative emotions such as confusion, fatigue, and concern about CBL, they also discussed positive emotions such as satisfaction with the creativity inherent in this method of learning and the enjoyable experiences provided by CBL (Klunklin et al., 2011). The concerns reported in other studies with respect to CBL show that the implementation of CBL requires careful planning and preparation of the students (Kantar & Massouh, 2015; Raurell-Torreda et al., 2015). Nonetheless, the teacher's supportive role and use of appropriate strategies to simplify the transition from traditional teaching methods to modern ones are vital to the successful implementation of this method (Kantar & Massouh, 2015). In a study conducted by Harman et al., students reported the need for a transition to adapt to CBL (Harman et al., 2015). With supervision and an open, enabling atmosphere (Hofsten et al., 2010) and through encouraging the socialization of the students through teamwork (Ravanipour, Bahreini, & Ravanipour, 2015), an enjoyable transition and a new sense of empowerment can be expected.

Another important finding of the present study was the sense of role-playing in professional life. The results obtained by Kanter and Massouh showed that, through the CBL method, nursing students tried to understand the patients' situation through activities such as clinical imagination, visualizing the patient or drawing a real picture of the patient. This study also reported that, through encouraging the students to carry out activities such as visualizing decisions, processing decisions, engaging in management processes, and taking an active role in patient care and promptness in relevant actions, CBL can affect their decisions and actions (Kantar & Massouh, 2015). These results show that CBL emulates the real situations faced by nurses in their real workplace. The present study reported understanding one's own professional identity as a benefit of engagement in CBL processes. Some studies have proposed emotional preparation for real life and learning professional thinking as the other advantages of CBL (Popil, 2011). In a study conducted by Harman et al., students in nutrition reported the acquiring of professional competencies such as the development of independence and organizational skills for future practices as the positive outcomes of CBL (Harman et al., 2015). Another study proposed that reflective thinking achieved through CBL helps

develop a professional self-concept comprising of attributes such as autonomy, empowerment, responsibility, and transformation (Kantar & Massouh, 2015). Therefore, CBL can therefore foster the potentials and capabilities required for the nursing profession.

Limitations

The present qualitative study was conducted to examine the CBL method according to the experiences of a group of students taking an emergency nursing course. The generalizability of the results is therefore limited; however, this strategy is recommended to be incorporated into all nursing curricula in order to further enable the generalization of the results. The experiences of students at different levels and those of nursing professors involved in CBL can then be studied using qualitative methods such as the grounded theory. In the present study, despite teaching the students about teamwork, interpersonal issues arose occasionally in mixed gender teams, which could have affected their learning experiences.

Conclusion

The present study explored the concept of CBL from the perspective of nursing students in Iran. Four themes emerged from the study, including “the continuum of knowledge from production to transfer competence,” “a positive atmosphere of interaction,” “the process of stress relieving,” and “the sense of role-playing in professional life.” CBL is an almost novel method in Iran. As a result, despite the sociocultural challenges in implementing CBL, nursing educators should prepare their students and the educational setting for the implementation of this method. This study found CBL to be a stressful albeit pleasant and empowering experience for Iranian students that can help them develop their critical thinking skills, enhance their diagnostic abilities, manage their levels of stress, and acquire professional competencies for future practice.

Implications for Nursing Education

CBL should be encouraged in undergraduate nursing students' transition programs to develop undergraduate nursing students' problem-solving abilities, which may impact the quality of nursing care and, in turn, improve patient safety. Successful implementation of CBL does not come easily; teachers should be alert to the issues of culture in designing curriculum. In addition, it is essential that adequate learning resources and sufficient time be allowed for students to do the self-directed learning required for CBL.

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