

Peer Learning Model for Critical Thinking and Self-Efficacy in Clinical Practice Education among Nursing Students

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Abstract

Background: Nursing education previously had been focused on traditional learning approaches. However, today, changes and development in information and technology require the foundation of active nursing education. One of these active learning approaches is peer learning. **This study aimed to** investigate the effect of the peer learning model for critical thinking and self-efficacy in clinical practice education among nursing students. A quasi-experimental research design was implemented. This study was carried out in three different departments; gynecology and Pediatric departments affiliated to University Hospital and Psychiatric Department at Shebin El-Kom Teaching Hospital, Menoufia Governorate, Egypt. A convenient sample of 100 undergraduate nursing students in the academic year 2019-2020 was recruited for this study. They divided randomly into the intervention and comparison groups (each group involves 50 students). Instruments used for data collection were three: instrument 1 was sociodemographic characteristics of students; instrument 2 was the Critical Thinking Motivation Scale, and instrument 3 was the Students' Self-Efficacy scale. The findings indicated that the total mean score of critical thinking and self-efficacy in the intervention group (peer learning group) was higher than in the comparison group (traditional group). The study concluded that applying the peer learning model among nursing students in clinical practice supervision effects on critical thinking skills and self-efficacy to a greater extent than traditional supervision does. So, it is recommended that the peer learning model can be applied during clinical practice for nursing students to enhance critical thinking skills and self-efficacy.

Keywords: Peer Learning model, Nursing Clinical education, Critical thinking, self-efficacy.

Introduction

Learning basic psychomotor nursing procedures is major component of the clinical nursing curriculum. Where, clinical training is often stressful experience for students. Nursing clinical procedures was conducted in both traditional class room setting and hospital setting (Shaban and Mohamed, 2020)

Today, however, developments and advancements in information and technology require the cornerstone of nursing education to be student-centered, active teaching methods that enable students to engage actively and think critically (Senyuva & Akince, 2020). One of the active approaches to education and learning is peer learning. Learning participation will impact student growth in important thinking, where

active participation is encouraged, and critical thinking is encouraged (Palsson et al., 2017).

In the nursing sector, peer instructions are mainly employed to help the student support each other in learning during the classroom, laboratory, and clinical practice settings. This is done by using the thought and behavioral abilities as well as the knowledge of other students in an age group (Senyuva & Akince, 2020).

As students of the same age use similar communication, therefore; it makes it easier for them to ask questions and provide satisfactory answers during educational activities. They can also facilitate communication between the students and the team. These increase their level of self-confidence and better prepare them for professional life (Bicer, Ceyhan & ve Sahin,

2016).

Peer education has proven to be very effective in terms of increasing knowledge, behavior, skills, self-confidence, motivation, and attitudes. It is also good for reducing their fear, shyness (Senyuva & Akince, 2020). Peer learning is an efficient learning technique and technical expertise that is considerably higher than traditional methods (Abdallah et al., 2020). Learning with and from each other is described as allowing peers to collaborate, reflect and solve problems together (Hellström-Hyson et al., 2012 and Chojecki et al., 2010).

A change from content-based to problem-based curricula is recommended by the health care community. Nurses ought to reflect, critically think, self-critique, synthesize data, and become lifelong learners. Nurses who can think objectively are more successful than those who can only recall details as the content of nursing science continues to evolve and develop (Potgieter, 2012).

A Group of approaches that involve paired learning is used as an umbrella term for peer learning. The use of groups in the education of clinical practice is necessary because it offers students the possibility to gain skills as they learn by interacting with each other (Palsson et al., 2017). A peer can be defined as students of a similar age, academics, nursing course, and experience but have different levels of expertise (Young et al., 2014).

Previous studies have shown some good outcomes, students have recognized improved problem solving, debate, and reflection (Stenberg & Carlson, 2015). It could support the teaching load of clinical instructors and is quite helpful in decreasing the discomfort encountered during the first few exposures of the students in the clinical environments (Potgieter, 2012). Moreover, the students have demonstrated that the learning process is improved when they do it with a peer (Stenberg & Carlson, 2015). Furthermore, Ravanipour, Bahreini, & Ravanipour (2015) implied that the method most useful among nursing students for practicing leadership and clinical skills before they start a job is peer learning.

Various teaching strategies to develop critical thinking are well documented in the literature,

from these, peer coaching includes analysis, communication, motivation, assessment, and guiding others to improve critical thinking to discover and make decisions (Potgieter, 2012).

The many benefits of implementing peer learning involve assisting students in acquiring the relevant educational skills which will be required in the future when they become teachers. It may prove to be incredibly helpful in the environment of clinical learning where students have reported being anxious, overwhelmed, and feel unsupported (Tai et al., 2017).

Academics identify educational benefits of peer learning such as it improves critical thinking, learning autonomy, motivation, collaborative and communication skills (Stigmar, 2016). Besides, previous studies suggest that peer learning and teaching lead to enhancing students' self-reported confidence and have been shown to increase their knowledge and skills (Rees et al., 2016).

Bandura's Social Cognitive Theory hypothesizes that people learn from one another through observation, imitation, and modeling. He reflected that a vast amount of social learning occurs among peers. Self-efficacy is a central concept in social cognitive theory, and greater self-efficacy is thought to facilitate actions and behaviors such as decision making. Self-efficacy can be described as an individual's belief in his/her own ability to succeed in a prospective situation. An individual with high self-efficacy is more likely to view certain tasks as something to be controlled rather than as something to be avoided (Bandura, 1997).

It can be concluded that peer learning is a useful model for nursing students' that seems to improve self-efficacy more than traditional supervision does. The model gives nursing students opportunities to practice several competencies on each other, such as leadership and organizational skills that are useful in their future profession. The students practice teaching and supervision skills on each other, which seems to be a natural part of the peer relationship (Palsson, 2020).

Significance of the Study

Nowadays, the clinical training skills become more complex, as it needs nursing

education to respond properly by applying recent curriculum objectives plus encourage creative teaching strategies. Peer learning may hold promise as a learning effective method (Shaban and Mohamed, 2020).

Universities have utilized peer learning facilitating learning for many years, but teaching strategy less common in nursing education (Arkan, ordin, yilmaz, 2018). Potential advantages of using peer learning education enhancing learning include reducing students' anxiety, increasing self-efficacy among students. Therefore; the present study was conducted to investigate the effect of the peer learning model for critical thinking and self-efficacy in clinical practice education among nursing students

Aim of the Study

The study aimed to investigate the effect of the peer learning model for critical thinking and self-efficacy in clinical practice education among nursing students

Research Questions:

- 1- What is the effect of the peer learning model on nursing students' critical thinking skills in clinical practice education?
- 2- What is the effect of the peer learning model on self-efficacy of nursing students in clinical practice education?

Operational Definitions

Peer Learning

Boud, Cohen, & Sampson, 2001 define peer learning as students learning from and with each other in both formal and informal ways while working in pairs without the immediate intervention of a teacher. Stone, Cooper, & Cant, 2013 added that peer learning involves active students' participation and takes responsibility for their learning. In the present study, it is defined as the process of gaining knowledge, understanding, and skills through instruction or experience from students that are at the equivalent academic or experiential level and are in the same nursing course.

Critical Thinking

Critical thinking is a type of thinking pattern that requires people to be reflective and pay attention to decision-making which guides their beliefs and actions. Critical thinking allows people to deduct with more logic, process sophisticated information, and look at various sides of an issue so they can produce more solid conclusions (Joan Baron and Robert Sternberg, 1987). In the present study, it defined as the ability to think clearly and rationally, understanding the logical connection between ideas, and engage in reflective and independent thinking.

Self-efficacy

Self-efficacy can be defined as people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performance (Bandura, 1986). In the present study, it refers to student's confidence in their ability to complete a task or achieve a goal.

Patient and Method

Research Design

A quasi-experimental research design (intervention and comparison groups) was applied

Research Settings

This research was performed in three departments; Gynecology and Pediatric departments affiliated to University Hospital and Psychiatric Department at Shebin El-Kom Teaching Hospital, Menoufia Governorate, Egypt.

Sample

A Quota sample of undergraduate nursing students attending their first clinical practice in the academic year 2019-2020 were recruited for this study (N= 100). Who were willing to participate in the study after receiving full disclosure of the study purposes and procedure. The students were in their first semester at third and fourth-year undergraduate. They were divided into two equal groups by stratified random sampling technique, students supervised traditionally by the clinical instructor (comparison group=50 students) and students

engaged in peer learning model (intervention group=50 students).

The Faculty sets the learning outcomes nursing students are to achieve during their clinical practice. They are 1) assessing, planning, accomplishing, and evaluating patients' fundamental health care needs; 2) applying safety precautions in nursing.

Data Collection Instruments:

Three Instruments were utilized for data collection:

Instrument one: A questionnaire about demographic characteristics of students, it was developed by the researchers to assess the student's age, gender, prior education, and their experiences in healthcare.

Instrument two: Critical Thinking Motivation Scale (CTMS); developed by **Valenzuela, Nieto, & Saiz, (2011)** and adopted by researchers to measure the critical thinking skills of students. This has 19 Likert-type items having scored from 1 to 6, in which the students are requested to express their degree of agreement or disagreement with a series of statements. The statements correspond to each participant's expectations about thinking rigorously (expectancy), and the value in this type of thinking. The latter includes the ability of their thinking corresponding to the importance and usefulness (utility) that they perceive, the cost of thinking that way, and the interests which arose in them. The total scale score ranged from 19-114, with 114 indicating, the higher the level of critical thinking. The scale was validated by **Valenzuela, Nieto, & Saiz, 2011** (Alphas= .732 to .849).

Instrument Three: Students' self-Efficacy Scale (SSE); was adopted from **(Yang and Park, 2004)** after their permission. SSE scale was utilized by the researchers to determine the students' perception of their ability to cope with different situations in their life. It has 14 items and a scale of 5 points with 1 being 'strongly disagree' to 5 being 'strongly agree'. Scale scores range from 14 to 70, with 70 indicated, the higher the level of clinical coping.

Validity & Reliability of Instruments

The instruments were reviewed and tested for face validity by five experts "two professors from

pediatric and obstetric nursing, two professors in nursing education and one psychologist. Test-retest reliability was used. The internal consistency of the instruments was calculated using Cronbach's alpha coefficients. Study instruments revealed reliable at Cronbach's alpha 0.861 for part (one), 0.742 for part (two) , at 0.82 for part (three).

Administrative Design

Before embarking on the study, an official letter requesting permission to perform the study was obtained from the Dean of the Faculty of Nursing, Menoufia University, to the director of each department. The purpose of the study was included in this letter to get permission and assistance for data collection.

Ethical Considerations

The faculty of Nursing's ethical committee was obtained at El-Menoufia University (ref No. 1668/2019). Meetings were conducted with students to explain the purpose of the study, clarify the items of the questionnaire, and obtain oral consent. The students were informed about the privacy of their information and were assured that the information would be used for scientific research only. The study was voluntary and harmless. Students had the right to refuse to participate in the study or withdraw at any time. Formal written consent was obtained from all participants, who agreed to complete the study. Participation was entirely voluntary and students who chose not to participate did not experience any coercion. Data collected from students were preserved in a locked cabinet in the office of the principal researcher and shall be destroyed as per university protocols after 4 years.

Pilot Study

A pilot study was carried out on 10 % (10 students) of the total sample to ensure the clarity, applicability, feasibility of the instrument as well as determine the time needed for data collection. No modifications were made based on the results of the pilot study. The subjects of the pilot study were excluded from the total sample to ensure the stability of the results.

The peer learning model in clinical practice:

During the first two weeks of clinical

practice, all students in the studied groups were prepared to assess and care for the patients according to their departments. Care of patients includes implementing the nursing process “assessment, diagnosis, planning, implementation, and evaluation” for detecting patients’ problems and needs. Also, applying all clinical procedures such as physical examination, medications distribution, investigations, communication skills, emotional support, and providing health education .

All students received traditional supervision during the first two weeks of clinical practice, meaning that one clinical instructor supervised one nursing student at a time.

During the last two weeks of clinical practice, students in the intervention group received peer learning and the comparison group continued with traditional supervision (figure 1).

The peer learning model used in clinical practice included nursing students who were enrolled in the same course and paired together. The two students in the pair were scheduled at the same time, shared responsibility for a group of patients, and were supervised by one clinical instructor. Students supported each other and learned with and from each other. In peer learning, the clinical instructor's role was supporting students in their learning process, reflecting, and giving them feedback.

In traditional supervision (Comparison group), the clinical instructor played an active role as a clinical educator for students. The students learned through the knowledge and experience of the supervisor by observing the instructor.

- The clinical instructor’s role was supporting students in their learning process and ensuring patients' safety in both the peer learning model and traditional supervision.
- Researchers were in constant contact with the clinical instructors who were keeping a lookout for the students and checked whether the students were engaging with peer learning as intended in their respective intervention group

Clinical Practice

Assessment: Questionnaire

The first week	Second week	B A
Third week	Fourth week	F A

Intervention group

Comparison group

Data collection procedure:

Data were collected for 2 months from October to November 2019. The researchers started data collection by explaining the purpose of the study, ensuring the privacy and confidentiality of data, and confirming that every student had the full right to withdraw at any time without any explanations or consequences.

Baseline data were collected during the students` second week of clinical practice after all students had received traditional supervision. Thereafter, students were either assigned to peer learning model (intervention group) or continued traditionally (comparison group).

The follow-up data were collected two weeks after baseline, at the end of the clinical practice period (figure 1).

The questionnaire was distributed to nursing students in the faculty classes after lectures or seminars according to their specialties. Self-reporting scales ranging from strongly agree to strongly disagree, students were asked to carefully respond to each statement requested. The self-efficacy and critical thinking of the students were evaluated by the researchers at baseline and follow-up. The collection of the data took approximately 20-30 minutes.

Limitation of the Study

The findings of this study are not representative of all nursing students because of a small sample size of students, a short period of the study, besides the lack of random selection of students.

Data Analysis

Data was coded and transformed into a specially designed form to be suitable for the computer entry process. Data was entered and analyzed by using SPSS (Statistical Package for Social Science) statistical package version 22. Graphics were done using the Excel program.

Quantitative data were expressed as mean, standard deviation (SD), while qualitative data were expressed as frequencies (n) and percentages (%). Nonparametric statistics such as the Wilcoxon signed-rank test and the Mann Whitney U-test were used to analyze differences within (over time) the groups' as well as differences over time between the groups. The Mann-Whitney U-test was used to compare baseline measurement factors between groups. Independent samples t-tests and Chi2 were used when comparing baseline characteristics between the intervention and comparison groups. The level for statistical significance was set at $p \leq 0.05$ (two-tailed).

Results

Table (1): Presents demographic characteristics of the studied groups as age, sex, academic year, or previous working in health care, It clarified that there were no statistically significant differences present between comparison and intervention groups.

Table (2). Illustrates critical thinking in intervention and comparison groups at baseline and follow up. As shown in this table there were no statistically differences regarding all items of critical thinking between comparison and intervention groups at the baseline. But at follow up test, there was a highly statistically significant difference between intervention and comparison groups where the mean of critical thinking items in the intervention group (16.88, 16.92, 17.28, 17.18, and 12.52 respectively) was higher than in the comparison group (7.52, 7.52, 7.52, 7.52, 5.68 respectively) P-value <0.001.

Table (3) and figure (1): indicates total mean score of critical thinking scale and self-efficacy for the intervention and comparison groups at baseline and follow up. There were no statistically significant differences in baseline critical thinking and self-efficacy for the intervention and comparison groups. But at follow-up, there was a highly statistically significant difference between intervention and comparison groups (P-value <0.001). This means that there were an improvement in critical thinking and self-efficacy in the intervention group than the comparison group, where the total mean of critical thinking in the

intervention group (80.78) was higher than in the comparison group (35.5). Also, the total mean of self-efficacy in the intervention group (58.86) was higher than in the comparison group (26.18).

Figure (2): illustrates the total mean score of critical thinking and self-efficacy in the intervention group at baseline and follow-up. It revealed that there were an improvement in critical thinking and self-efficacy in the intervention group at follow-up than at baseline. Where the mean of critical thinking and self-efficacy at follow-up (80.78 & 58.86 respectively) were higher than the baseline of the intervention group (35.5 & 27.84 respectively) P-value <0.001.

Figure (3): clarifies the total mean score of critical thinking and self-efficacy in the comparison group at baseline and follow-up. There was no improvement in critical thinking and self-efficacy in the comparison group at follow-up. Where there were no statistically significant differences regarding total critical thinking and self-efficacy at baseline and follow-up tests.

Table 1: Demographic Characteristics of the Studied Groups

	Intervention group (peer learning group) No=50		Comparison group (clinical instructor group) No=50		X ²	P- value
	No	%	No	%		
-						
Gender					Fisher's Exact Test 0.161	0.841
- Male	22	0.44%	24	48.0 %		
- Female	28	56.0%	26	52.0 %		
Academic year					0.161	0.841
- Third year	26	52.0 %	28	56.0%		
- Fourth year	24	48.0 %	22	0.44%		
Are you working in a health care hospital before that					6.04	0.049
- Yes	4	8%	2	4 %		
- No	46	92%	48	96 %		

Table 2: Critical Thinking Scale in Intervention and Comparison Groups at Baseline and Follow up

Items of Critical Thinking scale	Intervention group (peer learning group) No=50		Comparison group (clinical instructor group) No=50		P1	P2
	Baseline Mean (SD)	Follow up Mean (SD)	Baseline Mean (SD)	Follow up Mean (SD)		
Total expectancy	7.48±1.76	16.88±1.32	7.38±1.74	7.52±1.33	0.776	0.001
Total attainment	7.48±1.76	16.92±1.32	7.38±1.74	7.52±1.33	0.776	0.001
Total Utility Value of critical thinking	7.48±1.76	17.28±1.29	7.38±1.74	7.52±1.33	0.776	0.001
Total intrinsic /interest value of critical thinking	7.48±1.76	17.18±1.22	7.38±1.74	7.52±1.33	0.776	0.001
The total cost of critical thinking	5.58±1.31	12.52±0.86	5.48±1.23	5.68±1.08	0.695	0.001

P1: intervention group and comparison group at baseline

P2: intervention group and comparison group at follow up

Table 3: Total Mean Score of Critical Thinking scale and Self- Efficacy for the Intervention and Comparison Groups at Baseline and Follow up

Items of Critical Thinking	Intervention group (peer learning group) No=50		Comparison group (clinical instructor group) No=50		P1	P2
	Baseline Mean (SD)	Follow up Mean (SD)	Baseline Mean (SD)	Follow up Mean (SD)		
Total Critical Thinking scale	35.5±8.28	80.78±5.56	35±8.1	35.76±6.23	0.761	0.001
Total Self-Efficacy	27.84±5.10	58.86±3.97	26.30±4.78	26.18±4.83	0.123	0.001

P1 intervention group and comparison group at baseline

P2 intervention group and comparison group at follow up

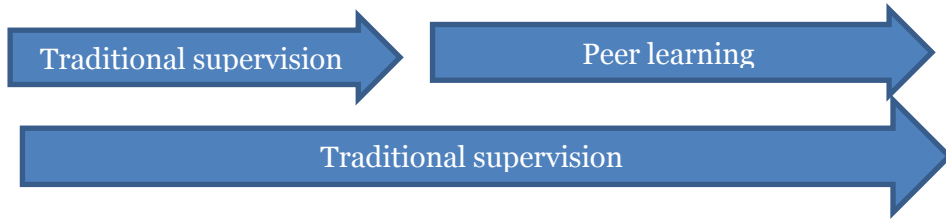


Figure (1): Overview of study design, with baseline assessment (BA) and follow-up assessment (FA) in the intervention and comparison groups

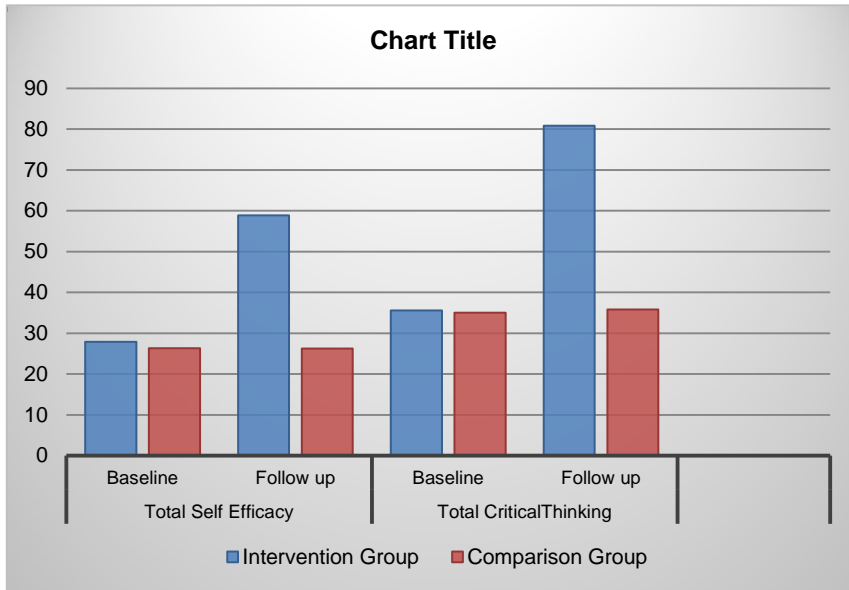


Figure (2): Total Mean Score of Critical Thinking scale and Self Efficacy for the Intervention and Comparison Groups at Baseline and Follow up

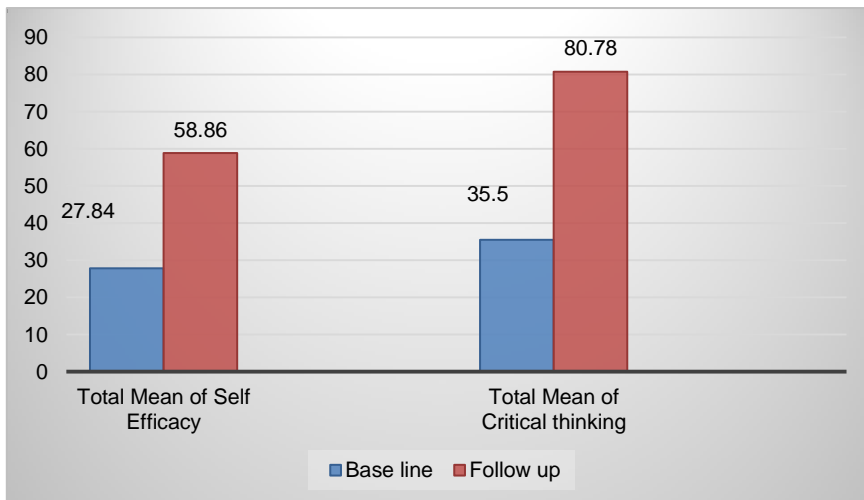


Figure (3): Total Mean Score of Critical Thinking scale and Self -Efficacy in the Intervention Group at Baseline and Follow up

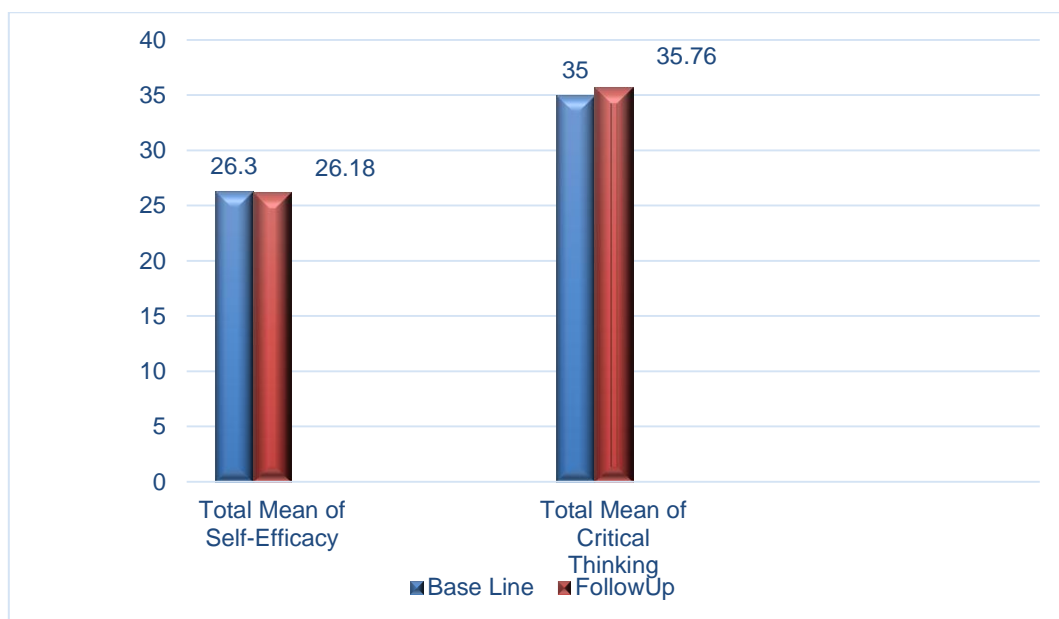


Figure (4): Total Mean Score of Critical Thinking scale and Self -Efficacy in the Comparison Group at Baseline and Follow up

Discussion

The results of the current study answered the research questions and reported that the peer learning model had a positive influence on the skills of critical thinking and self-efficacy of nursing students during clinical practice education.

The results of the study are discussed in the following sequences: **1- Findings related to demographic characteristics of the study participants** **2- Findings related to the effect of peer learning model on nursing students' critical thinking skills** **3- Findings related to the effect of peer learning model on nursing students' self-efficacy.**

1- Findings related to demographic characteristics of the study participants

Regarding the demographic characteristics of the study participants, the results of the present study revealed that the participants of both the intervention and comparison groups were matching in almost all aspects of their demographic characteristics such as age, gender, academic years, and previous working in private hospitals. (Table 1) this was quite expected since nursing students who attending clinical practice were in their first semester at third and fourth year.

This means that there was no statistically significant difference between intervention and comparison groups regarding demographic characteristics. This homogeneity between two groups is beneficial to the present study as homogeneity enhance generalization of the study results as well as avoids of confounding variables.

The findings of the present study were supported by the findings of study by **Palsson et al., (2017)**, who studied "A peer learning intervention for nursing students in clinical practice education" reported that there were no differences between participants and non-responders at baseline regarding study variables or demographic characteristics, furthermore, there were no differences between intervention and comparison groups at baseline regarding demographic.

2- Findings related to the effect of peer learning model on nursing students' critical thinking skills (Research question one)

Regarding to the effect of peer learning model on nursing students' critical thinking skills (Table 2 and figure 1). The results of the present study showed that, there was no statistically significant difference in critical thinking skills at the baseline for the intervention and comparison groups. But there was a highly statistically significant difference between intervention and comparison groups during follow-up where, the total mean of critical thinking skills was higher in the intervention group than comparison group. This can be described as nursing students that were permitted to learn with a peer during education in clinical practice had increased levels of all critical thinking skills shown throughout all time than who educated by traditional supervision.

The researcher's opinion about these results that peer learning gave the students opportunity to acquire skills through interaction, improve problem solving and communication skills all these were enhanced the critical thinking.

Critical thinking skills in nursing education is very important where in today world the healthcare is a complex, dynamic, and a high-tech environment. In addition, nurses have the responsibility to make decisions of complex nature to provide effective and safe care to the patients on a daily basis. These increase a necessity to enhance critical thinking skills in nursing education. (**Green, 2018**).

Similar findings were reported by (**Shaban and Mohamed, 2020**) who conducted a study about "effect of peer teaching on nursing students performance of clinical training in hemodialysis unit" which found that peer learning produces a learning process by increasing student reflection and exchanging knowledge on patient care, thoughts and experiences, which also tends to enhance critical thinking skills.

The findings of the present study came in the same line with **Stenberg and Carlson (2015)** who stated that previous, primarily

qualitative, peer-reviewed nursing student research in clinical practice has shown multiple good outcomes. Improved skills to solve problems, discussion and reflection were found as well as improved teamwork skills and communication skills.

Moreover, **Palsson et al. (2017)** also supported the result and reported in their research on "A peer learning intervention for nursing students in clinical practice education" there were enhanced levels of critical thinking in the intervention group than traditional group (in the factor 'critical thinking related to nursing tasks' and total scale), psychological empowerment (Spreitzer's empowerment scale; total scale), and satisfaction with provided care (NSC) was found in both groups. Thus, these variables improved independently of the clinical practice model employed.

3- Findings related to the effect of peer learning model on nursing students' self-efficacy (Research question two).

Concerning self-efficacy (Table 3 and Figure 1, 2, 3), the current study found that there were no statistically significant differences in the baseline (before intervention) related to self-efficacy for both groups. However, a highly statistically significant difference between both groups was observed during the follow-up evaluation. Where, the total mean self-efficacy score for the intervention group was higher than the comparison group.

Researchers point of view about these results that peer learning may result in decreasing anxiety with learning due to familiarity of peer with students issues and assisted them to fit into clinical situations this lead to student feel like apart of team thus self-confidence and efficacy of the students increased. Also, peer learning increase knowledge, ability to share knowledge and skills without fear from instructor supervision.no fear from doing mistakes. This increase skills and self-efficacy.

This result was confirmed by **Palsson et.al. (2017)**, who claimed in their research on "A peer learning intervention in clinical practice education for nursing students" that peer learning has a higher degree of self-efficacy than

conventional self-efficacy supervision.

The findings of the present study were in the same line with **Jahanshahi, Abyaneh &Abyaneh (2016)** whose study about "investigating the effect of peer education on self-efficacy in patient with heart disease" and they concluded that peer education would improve the self -efficacy where highest percentage of the studied subjects before intervention had low self- efficacy, but most of them after intervention had high self- efficacy .

Opposite to this, the findings of our study were inconstant with **Brannagan et al., (2013)** who found that the differences between faculty instruction and peer teaching/learning in the clinical lab environment were not significant. However, there is a difference of situations in their study compared to our research, the students in their study were enrolled in different courses.

Finally, for nursing students, peer learning is an efficient model for education. This prepares students for their potential teaching roles, develops their self-esteem, and improves their psychomotor skills and attitudes (**Sahar, Fatma, and Maha, 2013**).

Conclusion

The findings of this study concluded that peer learning is an appropriate model for teaching and learning which affect positively the critical thinking and the self-efficacy of nursing students in clinical practice education. This was illustrated through the following: An improvement in the skills of critical thinking and self-efficacy in the intervention group (peer learning group) more than in the comparison group (traditional supervision group) was present. Where the total mean score of critical thinking in the intervention group was higher than in the comparison group. Also, the total mean score of self-efficacy in the intervention group was higher than in the comparison group .

Recommendations

Based on the study findings and conclusion, It was recommended that:-

- 1- The peer learning model should be seen as a complement to other more traditional

teaching approaches, as it stimulates learning in a much less stressful environment and thus becomes a more preferable learning experience.

- 2- Healthcare organizations need to involve in the role of peer learning in improving the clinical environment experiences of undergraduate nursing students and increasing their confidence.
- 3- More extensive research is required to conclude the different effects peer learning on the outcomes and experiences of the undergraduate nursing students with regards to their engagement in either formal or informal peer learning.
- 4- Further research is required on a large sample of students and in the different clinical settings for the generalization of the findings.

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