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Innovative Approaches in Nursing Clinical Education in Turkey: Scoping Review

Abstract

Aim: The aim of this scoping review was to examine the results of studies on innovative approaches to clinical nursing education in Turkey.

Method: The research was based on the comprehensive research protocol proposed by Arksey and O'Malley. PubMed, Ovid, Ebsco, Elsevier, Google Scholar, Ulakbim, Turk Medline, and Dergi Park databases were screened.

Results: Fifty-one research articles meeting the inclusion criteria were included in the study. Studies in Turkey focus on the innovative approaches of simulation (25), distance learning (8), clinical guidance (7), concept map (4), peer coaching (4), and reflective thinking (3).

Conclusion: It has been determined that innovative approaches in clinical nursing education improve psychomotor skills, increase communication skills as well as reduce anxiety, and students' opinions about related methods are positive. In addition to the positive results of the studies, it was found that experimental designs with high evidence value were insufficient.

Keywords: Nursing, Nursing education, Clinical education, Innovative approaches, Scoping review

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Introduction

The healthcare system is constantly evolving in a way that it requires leader nurses with critical thinking skills and technological literacy who can provide safe and quality care. Incorporating innovations into education is the most important step towards meeting new care needs.[1,2] Learning nursing in clinics is unique because it allows nursing students to perform some interventions directly on patients. However, the fact that the applications are carried out directly on the patient causes stress in the students for many reasons. Fear of making a mistake and harming the patient, feeling inadequate by the students and not trying again on the patient are among the leading causes of stress.[3-7] In addition, due to the developments in technology, the speed of information transfer and the changes in the expectations of students in higher education, traditional education methods have been insufficient, and it has become mandatory to apply innovative education techniques that can meet the requirements of the age in nursing education.[8,9]

The International Council of Nurses (ICN) defines innovation as a process in which new ideas (products, methods, services, etc.) are transformed into value-creating outputs.[10] Innovative methods in nursing education should be able to meet the expectations of the globalizing world while reaching the imagination and creativity of students.[11] Mary[12] (2014) stated innovative approaches in nursing education as methods that include constructivist education approaches such as computer-assisted education, web-assisted education, portfolio, e-learning, case study, simulation, problem-based learning, concept map, storytelling, games and field visits.[12] These approaches help students achieve their goals in critical thinking, integrating knowledge and creating new knowledge, and adapting their skills to new situations.[12] In addition, it is also stated that these methods facilitate the transition to the clinic, develop values such as holistic care, empathetic thinking and effective communication as well as providing basic skill practices.[13] Considering the current benefits, the idea that evaluating the studies on this subject in terms of quality and quantity in our country will guide future studies constitutes the main aim of the research. This study has the feature of being the first scope research on this subject in our country. The aim of the study is to examine the results of studies on innovative approaches used in the clinical practice of nursing education in Turkey.

Research Questions

1. What are the innovative approaches used in clinical practice of nursing education in Turkey?
2. What are the results of studies on innovative approaches to clinical nursing education in Turkey?
3. What are the designs that can guide clinical educational research in the future?

Method

This study was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Scoping Reviews-PRISMA-ScR (PRISMA-ScR) checklist. The protocol of this study was based on the methodological framework outlined by Arksey and O'Malley.[14] The Arksey and O'Malley comprehensive research protocol was an appropriate method as it drew the boundaries of innovative approaches in nursing clinical education in Turkey and map out the current results.

Screening Strategy

PubMed, Ovid, Ebsco, Elsevier, Google Scholar, Ulakbim, Turk Medline, and Dergi Park databases were screened using the keywords of "nursing," "nursing education," "clinical education," "innovative approach," and "scoping review" (both in Turkish and English) for relevant articles published between 2012 and 2019. English keywords were used to access studies conducted in Turkey and published in English.

Inclusion and Exclusion Criteria

Inclusion Criteria

The inclusion criteria were as follows: (1) full-text articles, (2) on innovative approaches to clinical nursing education, (3) conducted in Turkey, and (4) published in Turkish or English (5) between 2012 and 2019.

Exclusion Criteria

The exclusion criteria were as follows (1) reviews and theses, (2) abstracts with no full-text available, (3) published in languages other than Turkish or English, and (4) not published between 2012 and 2019.

Sampling

The titles and abstracts of all electronically screened studies were independently reviewed by the researchers. After reading the abstracts, the full text of all of the studies considered to meet the inclusion criteria were reached. The results were summarized through tables developed by the two researchers and discussed until consensus was reached in terms of key results. In the last stage, it was decided to group the results according to the methods of the articles and the conceptual results of the innovative approaches. Studies that meet the inclusion criteria are presented according to the year of publication (from newest to oldest) (Table 1).

Results

As a result of searching the electronic databases, 1484 articles were reached at the beginning. Most articles were excluded because they were duplicates (n = 24), unpublished theses (n = 20), not research articles (n = 967), did not use any education method (n = 314), published in languages other than Turkish and English (n = 28), and did not have their full texts available (n = 80). Therefore, the sample consisted of 51 articles that met al.l inclusion criteria. Figure 1 shows the flow diagram.

Results on Research Methods

Although studies on innovative approaches in nursing clinical education are more descriptive, experimental designs are available (Graphic 1). Studies obtained as a result of screening and conducted between 2012 and 2019 performed with simulation (n = 25; nine descriptive, nine quasi-experimental, and seven experimental), distance learning (n = 8; four descriptive and four quasi-experimental), clinical preceptorship (n = 7; six descriptive and one quasi-experimental), concept map (n = 4; one descriptive, one quasi-experimental, and two experimental), peer coaching (n = 4; two descriptive and two quasi-experimental), or reflective thinking (n = 3; two descriptive and one quasi-experimental) methods.

Results on Research Results

Simulation

Sixteen of the simulation studies (n = 25) focused on the effect of simulation on students' psychomotor skills and anxiety. This studies showed that simulation helped students develop psychomotor skills and experience less anxiety during their nursing education.[15–21] It was determined that the simulation increased the accuracy of the students in their skill practices and the high-fidelity simulation had more positive effects than the low-fidelity simulation.[22–31]

The students stated that the simulation method was beneficial, and the method also helped the decision-making process by increasing the self-confidence, visual and auditory awareness of the students.[23,24,32–37] Students defined simulation as a method that "promoted effective learning" and "allowed them to work with real patients."[19] 86.4% of the students who do not have a simulation laboratory stated that their professional skills were negatively affected and 93.2% of them stated that there would be differences in practice with the students who had a simulation laboratory.[37] In a other study, students stated not to feel comfortable working with standard patients ($P < .001$). However, they stated that working with standardized patients was better at arousing curiosity ($P = .009$) and teaching professional responsibilities ($P = .030$) than working on mannequins.[31] The standardized patient method helped students initiate and structure communication with patients.[32] However, some students argued that simulation did not positively affect team collaboration and exam performance.[38]

Clinical Preceptorship

All studies conducting the preceptorship nursing method (n = 7) focused on students' and nurses' views. Two studies showed that clinical preceptorship positively affected clinical learning.[39,40] In another study, it was analyzed what intern students and preceptor nurses thought about a new clinical practice program. In the study, intern nurses were found to be competent in nursing diagnosis, planning, implementation and evaluation by themselves and the guide nurses. Besides, most of intern nurses were satisfied with preceptor nurses.[41] During the skill training, the students preferred the most "Guiding" and the least "Helping/conducive" options from the guidance features. It has been revealed that 2nd grade students perceive guidance practices more positively than 3rd grade students.[42] However, in another study, it was determined that students found nurses reluctant to provide guidance.[43] Nursing students also stated that clinical nurses contributed little to their training and took little responsibility. On the other hand, clinical nurses thought they were good role models and provided sufficient support to students regarding patient care and ward functioning.[44] While the guide nurses stated that the training given to them was beneficial, they demanded the responsibilities to be explained more clearly.[39] The views of the nurses on the behaviors of a guide nurse changed positively after the training on "developing psychomotor skills," "not showing an oppressive attitude while counseling," and "interviewing the student about how to improve performance."[45]

Distance Learning

There were eight studies on distance learning. Four of them focused on students' views, while the remaining four investigated the effect of distance learning on fundamental nursing skills. It was determined that 74% of the students did not have knowledge about distance education. The students stated that they wanted to participate in distance education with the thought that it was beneficial and provides freedom in education and career. Some others did not want to attend distance learning

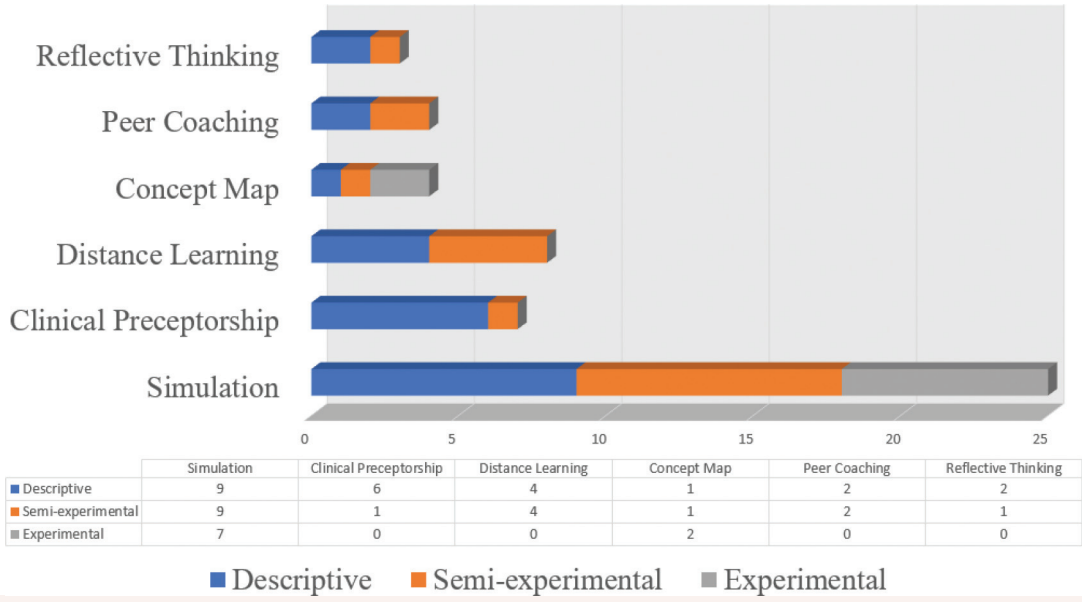
Table 1. Characteristics of the Studies in Scoping Review

Author and Year	Sample	Method	Innovative approaches	Results
Karahan et al.[34]	130	Descriptive	High-fidelity simulation	Student satisfaction (+) Self-confidence (+)
Kiraz [20]	267	Experimental	Simulation	Learning attitudes (+) Skill (+) Decrease in anxiety (+)
Gürcüoğlu et al. [38]	103	Descriptive	Simulation	Clinical practice (+) Skill (+) Understanding the lesson (+) Critical decision making (-) Team collaboration (-) Exam success (-)
Atan et al.[24]	90	Quasi-experimental	High-fidelity simulation	Obstetrics skill (+) Satisfaction (-)
Şahin et al.[37]	50	Quasi-experimental	Standard patient	Achieving learning goals (+) Self-confidence (+)
Fındık et al.[25]	54	Descriptive	Low-fidelity simulation	Skill (+) Effective learning (+) Satisfaction (+) Benefit (+)
Karadaş and Terzioğlu[63]	84	Experimental	Simulation	Knowledge (+) Skill (+)
Takmak and Kurban[64]	72	Quasi-experimental	Low-fidelity simulation	Knowledge score (-) Korotkoff hearing voice (+)
Korhan et al.[21]	184	Quasi-experimental	Scenario-based simulation	Psycohomotor skill (+)
Edeer and Sarıkaya[35]	41	Qualitative	Simulation	Self-confidence (+) Decision making process (+) Decrease making mistakes(+)
Sü et al.[45]	124	Quasi-experimental	Peer coaching	Clinical stress reduction (+) Satisfaction (+)
Yılmaz and Sarı[28]	171	Experimental	High and low fidelity simulation	High-fidelity simulation; Clinical self-confidence (+) Communication (+) Holistic care (+)
Ordin et al.[60]	56	Qualitative	Reflective thinking	Increased anxiety of students during clinical practice (+) Communication problems with patients and their relatives (+) Problems with caring for complex patients (+)
Tanrıkulu et al. [61]	41	Descriptive	Reflective thinking	Analytic and critical thinking (+) Increase anxiety (+)
Sü et al.[45]	220	Quasi-experimental	Clinical preceptorship	As a result of the training, the views of the nurses about the method changed positively.
Uslusoy[36]	88	Descriptive	Simulation	Students who do not have a simulation laboratory stated that their professional skills were adversely affected and that the models and materials in the existing laboratory were insufficient.
Mete et al.[65]	49	Quasi-experimental	Simulation	Individual control (+) Problem solving skill (+)
Erdem et al.[53]	65	Quasi-experimental	Concept map	Problem solving skill (+) Critical thinking (+)
Ateş et al.[41]	105	Descriptive	Clinical preceptorship	Making a nursing diagnosis (+) Nursing care practice (+)
Şenyuva[47]	152	Descriptive	Distance learning	Student satisfaction (+)
Yelten et al.[58]	164	Descriptive	Peer coaching	Peer support mean score of nursing students (+)
Çayır and Faydalı[39]	117	Descriptive	Clinical preceptorship	Helpful (+) The training period should be extended and deepened. (+)
Zengin and Yardımcı[50]	120	Quasi-experimental	Distance learning	Pediatric diagnostic skills (+)
Aydın and Dinç[51]	63	Quasi-experimental	Distance learning	Arithmetic skill (+) Medication dose calculation (+)
Tunam et al.[54]	49	Quasi-experimental	Concept map	Understanding lesson (+) Problem solving (+) Learning (+)

Table 1. Characteristics of the Studies in Scoping Review (Continued)

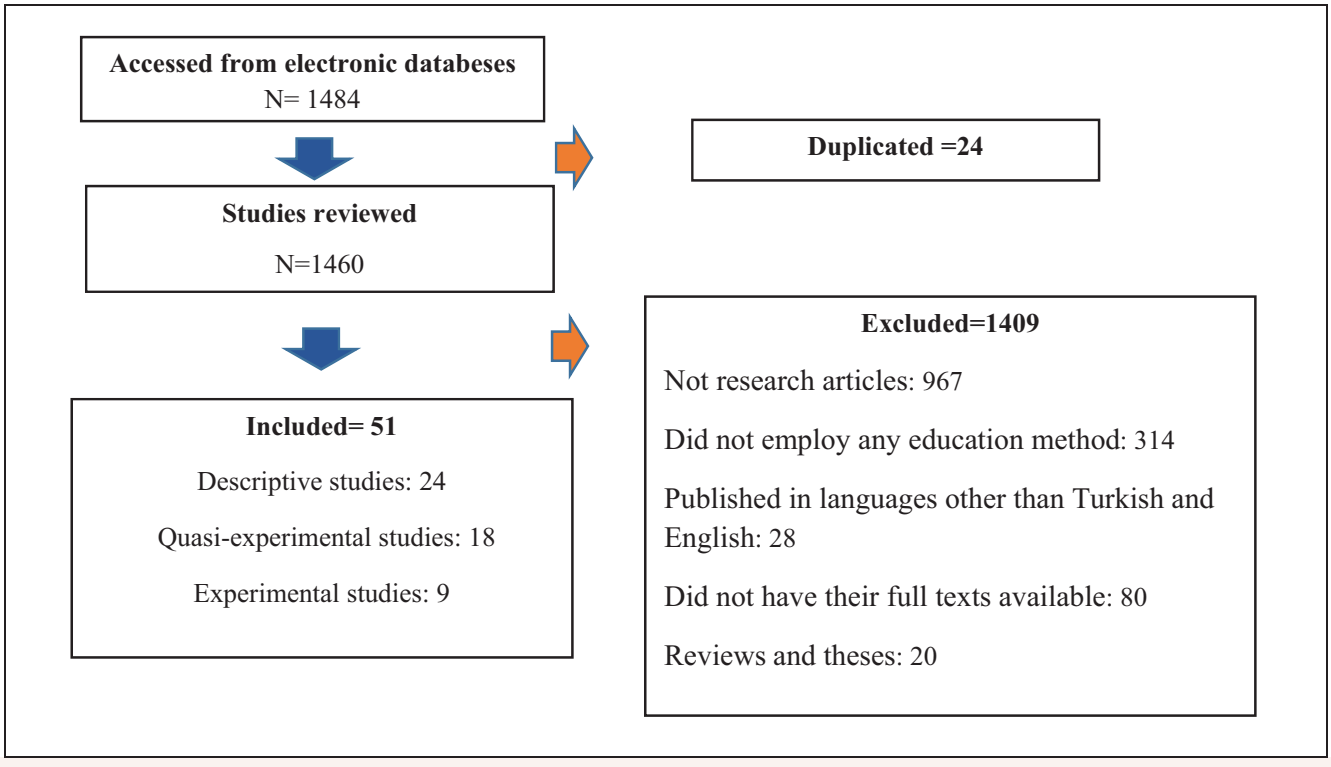
Author and Year	Sample	Method	Innovative approaches	Results
Şahin ve Sezer et al.[42]	456	Descriptive	Clinical preceptorship	Nursing students regarded mentor nurses primarily as "guides" but did not receive much "help" from them.
Atasoy and Doğu[55]	260	Descriptive	Peer coaching	It was determined that the students received physical, academic and emotional help, respectively. A positive relationship was found between peer support and the presence of friends.
Sarıkoç et al.[32]	86	Experimental/ Qualitative	Standard patient	Satisfaction with initiating/configuring a conversation with the patient (+)
Korhan et al.[17]	201	Quasi-experimental	Distance learning	Skill (+)
Gürol and Akpınar[22]	53	Quasi-experimental	Simulation	Rate of getting it right in skill practice (+)
Tanrıkulu et al. [59]	50	Experimental	Reflective thinking	Critical thinking (+) Problem solving (+)
Sarmasoğlu et al.[31]	87	Quasi-experimental	Standard patient and model method	Standard patient > model method clinical skill (+) arouse interest/curiosity (+) learning professional responsibilities (+)
Özkal and Çayır[33]	48	Descriptive	Simulation	Visual and auditory awareness (+)
Faydalı and Çayır[40]	43	Descriptive	Peer coaching	Clinical learning (+)
Terzioğlu et al. [29]	60	Experimental	Standard patient	There was an increase in psychomotor skills and a decrease in anxiety levels in laboratory, standard patient and clinic, respectively.
Süt and Küçükkaya[49]	297	Descriptive	Distance learning	Students stated that distance education is not suitable for nursing.
Karadağ and Çalışkan[19]	70	Experimental	Simulation	Maintenance planning (+)
Biçer et al.[44]	191	Descriptive	Clinical preceptorship	Students; little contribution to the education of clinical nurses clinical Nurses; stated that they provided sufficient support to the students in education.
Karadağ et al.[26]	70	Experimental	Simulation	Learning (+) Planning care and interventions (+)
Titrek et al.[43]	300	Descriptive	Clinical preceptorship	Students think that nurses are not willing to provide guidance.
Başak et al.[30]	66	Quasi-experimental	High and low fidelity simulation	Satisfaction; Yüksek gerçeklikli simülasyon > Düşük gerçeklikli simülasyon
Işık and Kaya[18]	69	Experimental	Simulation	Psychomotor skill (+) Decrease anxiety (+)
Saygılı and Özkalp[62]	45	Descriptive	Simulation	Self confidence (+) Communication skill (+) Decrease anxiety (+)
Şenyuva[48]	541	Descriptive	Distance learning	Supports individual learning Minimizes mutual interaction between educator and student
Öztürk and Dinç[7]	111	Quasi-experimental	Distance learning	Knowledge score (-) Skill (+)
Uslu et al.[66]		Case report	Concept map	Cause and effect relationship (+) Holistic care (+) Meaningful learning (+)
Andsoy et al.[46]	50	Descriptive	Distance learning	Distance education knowledge (-) Usefulness thought (+)
Atay and Karabacak[52]	80	Experimental	Concept map	Critical thinking (+)
Terzioğlu et al. [23]	24	Qualitative	Simulation	Useful method (+) A more realistic model has been suggested.
Karadağ et al.[27]	82	Experimental	Simulation	Increase anxiety (+) Ability to hear blood pressure and breathing sounds (+)
Abaan et al.[57]	72	Quasi-experimental	Peer coaching	Locus of control scale showed the greatest difference in "personal control" and the smallest difference in the area of "belief in fate" among nursing students who worked with mentors

(+) positive impact (-) did not have any effect.



	Simulation	Clinical Preceptorship	Distance Learning	Concept Map	Peer Coaching	Reflective Thinking
Descriptive	9	6	4	1	2	2
Semi-experimental	9	1	4	1	2	1
Experimental	7	0	0	2	0	0

Figure 1. Distribution of research on clinical education in nursing.



Graphic 1. Distribution of research on clinical education in nursing

because they had difficulty concentrating and understanding classes and believed that it was a waste of time.[46] Şenyuva (2017) determined that most students had an assimilative and converging learning style and positive views on distance learning.[47] In another study, students' views on the benefits of distance education were listed as "Supports self-learning," "Minimizes time and space restrictions." The opinions of the students regarding the restrictions were primarily listed as "It minimizes the mutual interaction between the educator-student, the student-student," and "It minimizes the socialization."[48] Kahyaoğlu Süt and Küçükkaya (2015) reported that most nursing students (87.5%) were against

distance learning due to two reasons. First, they believed that distance learning could not be integrated throughout the entire nursing curriculum (79.8%). Second, they believed that nursing was a practice-based profession, but that distance learning was not suitable for every lab and clinical practice (83.5).[49] However, studies showed that distance learning helped students develop basic nursing skills (pediatric diagnosis, drug dose calculation, urinary catheterization, etc.) and apply them correctly.[7,15,50,51]

Concept Map

There were four studies on the concept map method. Two of those studies showed that the this method helped students develop critical thinking, problem-solving, and psychomotor skills.[52–54] Discussing cases with concept maps is stated as an application that enables nursing students to provide holistic care by establishing cause-effect relationships, increases the memorability of concepts with meaningful learning, makes the care plan fun, and can be used to evaluate students.[54]

Peer Coaching

There were four studies on peer coaching. Three of those studies investigated the effect of peer coaching on students' skills and anxiety. The remaining one focused on students' views on peer coaching. Atasoy and Doğu (2017) determined that students mostly needed physical, academic, and emotional support from their peers. It has been determined that there is asignificant relationship between the presence of friends, which has positive effects on effective communication and teamwork, and the peer support score. Sü, Özlük, and Demirören (2018) found that students who worked with mentors had significantly lower stress levels than those who did not. Abaan, Duygulu, and Uğur (2012) observed the greatest difference in "personal control" and the smallest difference in the area of "belief in fate" among nursing students who worked with mentors. It was determined by Yelten, Tanrıverdi, Gider, and Yılmaz (2018) that the social self-efficacy and satisfaction levels of nursing students increased with peer support.[55–58]

Reflective Thinking

There were three studies on reflective thinking. All those studies focused on students' views and experiences with reflective thinking. In Tanrıkulu, Erol, and Dikmen (2016), most students stated that reflective thinking helped them evaluate themselves from different perspectives in clinical practice (76.0%) and reconsider their experiences and develop critical thinking skills (78%).[59] Ordin, Bilik, Damar and Çelik (2018) found that nursing students' learning experiences in their reflection reports included problems in practice (subdimensions; anxiety, communication with patients and their family members, and caring for complex patients), professional development, peer education, communication difficulties with instructors, and action plan.[60] In Tanrıkulu et al. (2018), most nursing students stated that reflective thinking helped them learn from their friends' experiences during clinical training (92.2%) and think more analytically and critically (82.9%). However, a quarter of the students (24.4%) noted that they felt disappointed when they could not solve problems. Two out of every 10 students (19.5%) remarked that reflective thinking caused anxiety in clinical settings, whereas seven out of every 10 students (73.2%) recommended that reflection be performed under the supervision of trainees. Almost a quarter of the students (23.2%) talked about the emotional reactions they experienced in clinical practice when they were asked to write down reflective thinking about cases.[61]

Discussion

This scope study was conducted to determine the types of innovative approaches used in nursing clinical education in Turkey and to evaluate the results. As a result of extensive research, simulation has been the most studied method in Turkey. Their results indicate that simulation reduces students' anxiety and helps them develop clinical and decision-making skills.[19,20,27–29,33,34,37,62–65] It is thought that these positive contributions of simulation will be effective in the training of self-confident, initiative, and therefore self-confident nurses in the clinical environment.

However, some researchers argue that simulation has an adverse effect on teamwork and exam performance and causes anxiety.[31,38] This is probably because simulation fails to reflect real-life situations, limits realistic human interaction, and focuses more on practice than on theory. It is thought that increasing the reality of the application environment of the simulation will contribute to the solution of the problems.[28]

Clinician nurses play as important a role as academics in turning nursing students into qualified healthcare professionals. All studies on mentor nursing in Turkey focus on nurses' and students' views. Both students and nurses believe that mentor nursing has a positive effect on learning.[39,40] These results are pleasing as they will increase school-hospital cooperation.

The fact that the students preferred the most "Guiding" and the least "Conducive" options among the guidance features during skill training and that the small classes perceived the method more positively than the large classes shows that the students want to improve their autonomy towards vocational skills practices.[42] In addition, it is an expected result that small classes will respond more positively to the guidance practice, since they need more support due to their new acquaintance with the clinic.

However, some studies have reported that students and nurses have different views on mentorship. In the study conducted by Biçer, Ceyhan, and Şahin (2015), nursing students thought that clinical nurses contributed little to their training, whereas clinical nurses thought they provided sufficient support to students regarding patient care and ward functioning.[44] This is probably because clinical nurses think that their role in training is only to teach how things work in the ward or because they do not take up the role of educators.

In cases where it is not possible to carry out in-class activities, education can be carried out remotely with the advancement of technology. In studies in Turkey, it has been observed that students do not have knowledge about the distance education system.[47] This is probably because it is not widely used in Turkey. Kahyaoğlu Süt and Küçükkaya (2015) reported that most nursing students were against distance learning because they believed that nursing was a practice-based profession, but that distance learning was not suitable for every lab and clinical practice.[49] Şenyuva (2013, 2017) interprets this as a realistic finding emphasizing the practice-based nature of nursing that cannot be replaced by any other method.[47,48]

Undergraduate education is a process where there are different stressors and peer coaching gains importance in order to adapt to a new era. The studies show that students are happy about peer coaching because it makes them feel less stressed during clinical training.[56,58] This is probably because students have the chance to work with and learn from mentors who once used to be students like them.

Nursing education should ensure that students learn how to bridge the gap between clinical practice and theory, perform inductive reasoning, and provide holistic care. Atay and Karabacak (2012) found that concept

maps promoted creativity and learning by allowing students to translate their knowledge into drawings and writings in a fun way.[52] However, only a few researchers in Turkey have focused on the effect of concept maps on nursing education. Those researchers concluded that concept maps helped students develop critical thinking, problem-solving, and psychomotor skills and contributed to holistic care practices and learning retention by teaching them how to establish cause-effect relationships.[52–54,66]

In the age of science, individuals need to know themselves better, give importance to individual and social development, and produce rational solutions in the face of problems by questioning.[67] One of the methods with these features is stated as reflective thinking.[68] The researchers also determined that reflection helped nursing students know themselves and learn from their own and their friends' experiences.[59,61] However, Tanrıkulu et al. (2018) reported that reflection caused anxiety and disappointment in students.[61] The results indicate that students should often perform reflection under the supervision of academician and that both parties should make joint decisions in terms of topics in order to make sure that students have as little negative experience as possible.

Limitations

Because nursing clinical education differs between departments, different educational approaches specific to each department are effective. Considering that the departments should prefer more effective methods for their unique educational approaches, the limitation of the study is that the approach here offers a general perspective.

Academics compare different methods and pick the best one for their unique educational approaches. Therefore, we cannot generalize our results to all departments. Future studies should focus on different innovative approaches specific to different nursing departments.

Conclusion

The results show that clinical nursing education in Turkey involves simulation, distance learning, clinical preceptorship, concept maps, peer coaching, and reflective thinking. These approaches help students develop psychomotor and communication skills and reduce their anxiety. Besides, students have positive views on the approaches. Although the studies have positive results, only a few of them employ high-evidence experimental research designs. It is thought that this scope research will contribute to the field in terms of showing the gap in literature, method and subject to be studied for educators. In this regard, it is recommended to carry out experimental studies with high evidence value specific to different nursing departments and in the determined gaps.

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