

Review Article

Factors related to theory–practice gap in clinical nursing: A narrative review

Kourosh Zarea¹, Zohreh Karimi²,

Sima Mohammadhossini^{3*} and Masood Fallahi Khoshknab⁴

¹Nursing Care Research Center in Chronic Diseases, Nursing Department,
School of Nursing & Midwifery, Ahvaz Jundishapur University of
Medical Sciences, Ahvaz, Iran.

²Department of Operating Room, School of Paramedicine,
Yasuj University of Medical Sciences, Yasuj, Iran.

³Department of Nursing, School of Nursing and Midwifery,
Yasuj University of Medical Sciences, Yasuj, Iran.

⁴Nursing Departments, University of Social Welfare and Rehabilitation Sciences (USWR),
Tehran, Iran.

Correspond Author: Sima Mohammadhossini

Email: hossini3270@yahoo.com Tel: +989173420865

ABSTRACT

Introduction: Clinical education is a complex process which is influenced by many variables, but there seems to be a difference between both training and clinic that has led to the gap between theory and practice. This gap is one of the factors devastating the mood of the students and nurses and consequently affecting care giving services to the patients. In this line, the purpose of this systematic review is to determine the causes of gap between theory – practice in nursing.

Methodology: The present study is a comprehensive review of evidences which was carried out based on Broom's method in three stages of texts search, data evaluation and data analysis. SID, Magiran, IranMedex, Irandoc, Medline, Embase, Ebsco and Cinahl databases were searched, using keywords like, Clinical education, Theoretical education, Nursing and Gap. Out of 3220 obtained articles and abstracts, finally 42 articles had been investigated based on inclusion criteria including: the presence of key expressions such as clinical education, theoretical education, nursing, division in the context of the article, case studies and research papers published in international journals or abroad and access to full-text articles without taking into account the time limit. Criteria for the Exclusion of papers from the study were unrelated and text-less abstracts. To analyze the data extracted from primary sources, after stepwise comparing, they were classified and summarized in unified, disciplined fashion.

Findings: Following repeated reviews and comparisons in terms of the gap between theory and practice in nursing in this study, the findings suggested that the causes of the given gap consisted of three general categories of theoretical education factors, clinical education factors, and factors affecting the gap between education and treatment; theoretical education factors (lack of readiness by educators, absence of strategic management for clinical roles of educators by nursing schools, emphasis on humanism and holistic care by theoretical knowledge at universities, transferring education to universities, no knowledge among students on how to work with educators, etc.), clinical education factors (lack of support and supervision by educators working in departments, insufficient time spent by educators on students' clinical practices in departments, absence of clinical guides or its ambiguity in departments, shortness of clinical education courses, etc.), and the factors affecting the gap between education and treatment (no need to courses taught in university at bedside, boldness of theory compared with practice, and the gap between theoretical knowledge of actual practices).

Conclusion: In case of nurse education, various factors have lead to gap between theory and practice that can be modified to bridge the gap by changing teaching approaches, applying active teaching methods, active participation of the student, and preparing clinical environment .

Keywords: Clinical education, Theoretical education, Theory – Practice gap

INTRODUCTION

Nursing knowledge depends on science and practice concurrently in a way that it has been recognized as an action-oriented profession in numerous studies. Since the trial field of nursing art and science is in clinical domains, nursing students are not only in need of learning knowledge but also gaining skills (1). Moreover, clinical education is unquestionably taken into account as the most important and the most basic part of nursing education programs (2) and it is also considered as the first source of learning and shaping the professional identity of medical students (3). Besides, nearly half of nursing education is conducted in undergraduate courses and clinical education is known as the heart of nursing education (4). As well, the value of clinical education is accepted for all and majority of experts in the domain of nursing education believe that the development of professional and scientific nursing education is not viable without the improvement of clinical education (5).

Different studies have somehow shed light on one of the factors affecting clinical education in nursing (6, 7). The results of such investigations have shown that clinical education is moving from bedside to classrooms and even hallways or conference rooms of hospitals. The estimates have also suggested that the time spent on bedside is variable between 15-25% (8).

Having a strong theoretical base of skills and sufficient expertise in clinical environments, new nursing graduates suffer from weaknesses in problem-solving processes. They obtain information from theoretical classes, but it is essential to acquire the vital capabilities in clinical contexts during educational courses or in the future. Additionally, most of the studies have indicated a relatively deep gap in classic nursing and midwifery education and clinical care practice so that the existing clinical education does not give university students the ability to authenticate clinical qualifications and skills (9). It should be noted that the gap between theory and practice was introduced by Halyng Worth in 1997 (10).

The gap between theory and practice means that theoretical education is not consistent with what nurses must do at bedside; thus, it is clear that challenges can be different in various situations and environments (11). The literal definition of the gap between theory and practice in general is the discrepancy between what nursing students have been taught in classrooms (theoretical) and what they experience and practice in clinical environments (12). According to another definition, non-compliance and inconsistency between professional education and clinical nursing management is today called the gap between practice and theory. In this respect, six types of gaps have been mentioned between theory and practice including the gap between ideals and realities, the gap between general and specialized education, as well as the gap between the theories used in clinical environments and oral ones (13). The dimensions of the combination of the theory-practice gap in nursing are also so vast and endowed with recognized necessities that lots of researchers in recent decades have made attempts to describe and reflect on part of it based on their experiences and facilities (14). The gap between theory and practice in nursing is an issue rooted in the history of nursing education and such inconsistency between theory and practice has become a source of concern for educators, nurses, and students due to the delays it creates on the way of learning (15). Most of the studies on this domain in the world have similarly indicated a significant difference between theoretical learning and clinical nursing services (16).

Nowadays, nursing education in most educational systems is deliberated based on two basic axes of theoretical education and clinical education and the gap between these two axes is taken into account as one of the major and risky challenges in the domain of nursing education. The problem of the gap between theory and theoretical-practical science seems to be a global phenomenon that has been frequently examined by nurses in numerous journals and articles. The given gap is also defined as a heterogeneous relationship between nursing

as a thought and nursing as a practice (17). In this regard, nursing students can take in theory–practice gap more than other groups because they are, on the one hand, receiving ideal and scientific trainings from their educators, and on the other hand, they are facing with routine and typical practices of clinical nurses that are different from theoretical lessons (18).

Moreover, some researchers believe that the gap between knowledge and clinical practice is included among the factors affecting clinical experiences among nursing students and it is known as one of the major challenges in clinical nursing education in Iran (19). In this respect, the results of the study by Alavi et al. on experiences and perceptions of nursing students about the concept of clinical education challenges revealed that one of the basic concepts obtained was the gap between theory and practice (20). The findings of various studies have also shown that one of the weaknesses of clinical nursing education has been lack of coordination between theoretical learning and clinical activities (21). From the perspective of nursing educators and students, there are some discrepancies between theoretical lessons and their applications (22). Since the integration of theoretical and practical education in clinical contexts is possible for all in general and for nursing students in particular, most learners may suppose that real learning of theoretical issues is only possible in a clinical setting. Thus, the missions of nursing schools are to train nurses that are able to manage clinical services on the basis of current scientific breakthroughs.

Similar to many other countries, little quantitative research studies adopting a positivist approach have been done in Iran on the sidelines of issues related to the given gap and each one has shed light on a part of this issue. A glance at numerous studies published in the past decade reflects nursing researchers' attention to different dimensions of this issue. In recent years, some systematic review studies with a holistic approach or naturalistic qualitative studies with descriptive–interpretative phenomenological approaches have been conducted on ontology and epistemology of

the elements as well as the Grounded Theory for the identification of the risk factors involved in the gap or the attachment between theory and practice or nursing services (23).

It should be noted that nurses are inherently willing to fill the given gap and improve the results of the quality of patient care (24). Much research has been written about the theory–practice gap. One reason for the gap between theory and practice is the transition of nursing profession from “service-oriented” period to “educational model” one (25). So far, lots of studies have been carried out in this domain and each one has examined these challenges from one perspective. Accordingly, some of them have pointed out no coordination between theoretical learning and clinical nursing services (26).

Some studies have also highlighted the issue that specialized nursing courses can bring more clinical applications (27). Some investigations have mentioned the use of Western-based nursing education and lack of attention to cultural contexts of other countries in education as the causes for this phenomenon and acknowledged that Western-based nursing education has failed to develop skills that are able to accumulate workplace requirements and fill the existing gap between nursing education and clinical environments (28). Considering that each of these studies has dealt with various aspects., the present review study was conducted to investigate the causes of the gap between theory and practice in nursing in Iran.

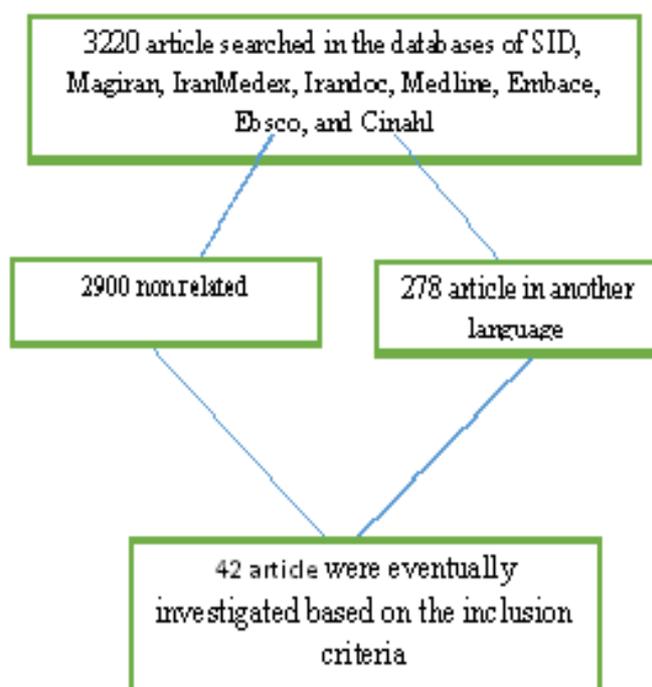
RESEARCH METHOD

This study was a comprehensive and in-depth review of literature using the World Wide Web. Moreover, the present study was an integrated review of evidence based on Broom's Method in three steps of literature searching, data evaluation, and data analysis(28). Within the step of literature searching, the investigations were examined in terms of the study inclusion criteria after recovery during four steps and then evaluated as they met the inclusion criteria. Finally, data analysis was performed by applying data reduction, data display, data comparison, data collection, as well as data validation. The databases of SID, Magiran,

IranMedex, Irandoc, MEDLINE, EMBACE, EBSCO, and CINAHL were also searched using keywords of clinical education, theoretical education, nursing, and gap. Of the total number of 3220 articles and abstracts obtained, 42 articles were eventually investigated based on the inclusion criteria: the presence of the keywords of “clinical education, theoretical education, nursing, and gap” in the context of the articles, review studies, and research papers published in domestic

and international high-ranking journals with full-text access and regardless of time limits (Diagram 1). The exclusion criteria for this study were irrelevant abstracts and those lacking full texts. For data analysis, the data extracted from primary sources were unified, organized, classified, and summarized after their comparisons. Furthermore, the validity of the analyses was confirmed by two researchers who were independently working during the analysis process.

Diagram 1



FINDING

Following repeated reviews and comparisons in terms of the gap between theory and practice in nursing in this study, the findings suggested that the causes of the given gap consisted of three general categories of theoretical education factors, clinical education factors, and factors affecting the gap between education and treatment; theoretical education factors (lack of readiness by educators, absence of strategic management for clinical roles of educators by nursing schools, emphasis on humanism and holistic care by theoretical knowledge at universities, transferring education to universities, no knowledge among students on

how to work with educators, etc.), clinical education factors (lack of support and supervision by educators working in departments, insufficient time spent by educators on students' clinical practices in departments, absence of clinical guides or its ambiguity in departments, shortness of clinical education courses, etc.), and the factors affecting the gap between education and treatment (no need to courses taught in university at bedside, boldness of theory compared with practice, and the gap between theoretical knowledge of actual practices). The results of this review were presented in Table 1.

Table 1: Causes of the gap between thought and behavior in nursing

Theoretical education factors	References
<ul style="list-style-type: none"> ✓ Lack of readiness among educators ✓ Absence of strategic management for clinical roles of educators at nursing schools (29) 	Aston, Mallik, Day, & Fraser (2000)
<ul style="list-style-type: none"> ✓ Emphasis on humanism and holistic care by theoretical knowledge at universities (30) 	Henderson (2002)
<ul style="list-style-type: none"> ✓ Transferring education to universities ✓ No knowledge among students on how to work with educators ✓ Long distance between educators and students because of their broad working scope (31) 	Hughes (2004)
<ul style="list-style-type: none"> ✓ No clarity of meanings in nursing manuscripts (32) 	Segaric & Hall (2005)
<ul style="list-style-type: none"> ✓ Nursing education curriculums based on past styles with no specialization (33) 	Spitzer & Perrenoud (2006)
<ul style="list-style-type: none"> ✓ Full-time activities by academics and lack of time to do research rather than get engaged at bedside (34) 	Elliott & Wall (2008)
<ul style="list-style-type: none"> ✓ No knowledge of the field of study ✓ Mentality in education ✓ Lack of efficient professional advisory system at the time of arrival ✓ Interactive relationship between inefficient educational programs and factors such as lack of applied knowledge ✓ Lack of active involvement of professors and graduate students at bedside ✓ Disconnection between schools and alumni ✓ School-based education without attention to actual needs of practical domains (35) 	Cheraghi, Salsali, & Ahmadi (2008)
<ul style="list-style-type: none"> ✓ Low number of simulated positions in laboratories ✓ Difference between learning on dummies and real positions (36) 	Maginnis, Croxon, & Croxon (2010)
<ul style="list-style-type: none"> ✓ Inadequacy of theoretical courses for clinical practices (24) 	Özyazıcioğlu, Aydınoglu, & Ayverdi (2011)
<ul style="list-style-type: none"> ✓ Teacher-student model in nursing ✓ Lack of clinical skills among university lecturers ✓ Insufficient research in nursing ✓ Lack of opportunities for continuing education ✓ Emphasis on theory rather than practice by university lecturers (37) 	Ajani & Moez (2011)
<ul style="list-style-type: none"> ✓ Conflict between nursing educators and clinical nurses in terms of theoretical education to students (38) 	Shokati Ahmad Abad, & Mohammadi (2011)
<ul style="list-style-type: none"> ✓ Lack of emphasis by university lecturers on the role of individual and cultural values and reflective practices (39) 	Nairn, Chambers, Thompson, McGarry, & Chambers (2012)
<ul style="list-style-type: none"> ✓ Transmission of information at universities instead of active and critical learning (40) 	Chan, Chan, & Liu (2012)
<ul style="list-style-type: none"> ✓ Educational engineering (needs assessment, educational effectiveness, standardization of educational contents) (41) 	Elahi, Alhani, & Ahmadi (2014)
<ul style="list-style-type: none"> ✓ Absence of a clear theoretical framework in nursing as a discipline (42) 	McCrae & Whither (2014)
clinical education factors	Reference
<ul style="list-style-type: none"> • Lack of support and supervision over the work of educators in departments • Insufficient time spent on updating educators for clinical work • Lack of adequate supervision by educators on students' clinical work in departments • Absence of clinical guides or ambiguity (29) 	Aston, Mallik, Day, & Fraser (2000)
<ul style="list-style-type: none"> • Shortness of clinical learning courses • Low level of teaching at bedside • Limited theoretical background among clinical educators • Lack of sufficient time among clinical educators to monitor and teach (33) 	Spitzer & Perrenoud (2006)
<ul style="list-style-type: none"> • Rapid and significant technological changes in care and increased patient demands • No incentives for engaging in clinical practices (34) 	Elliott & Wall (2008)

<ul style="list-style-type: none"> • Lack of specialized nursing work • Inadequacy of clinical educators due to lack of expertise and practical skills in their working scope • No active and direct involvement of educators in working with patients • Lack of practical application of nursing process • Weakness in practical education on mental and psychological care • Adherence to traditional routine-oriented approaches in departments due to conventional ruling dominance in departments • No application of innovative approaches (nursing process, case work, team work, etc.) • Weakness in in-service training management • Scientific and practical weaknesses of alumni • Absence of appropriate practical facilities and equipment in hospitals (35) 	Cheraghi, Salsali, &Ahmadi (2008)
<ul style="list-style-type: none"> • Horror of clinical sites for nursing students (36) 	Maginnis, Croxon, &Croxon (2010)
<ul style="list-style-type: none"> • Little supports to students in clinical environments (36) 	Finn, Fensom, Chesser, & Smyth (2010)
<ul style="list-style-type: none"> • Students' practices based on routine clinical environments (37) 	Ajani &Moez (2011)
<ul style="list-style-type: none"> • Compliance with routine regulations in departments and wrong habits dominating bedside (38) 	Shokati Ahmad Abad, &Mohammadi (2011)
<ul style="list-style-type: none"> • Meritocracy (scientific qualifications, clinical validity, and professional ethics) (41) 	Elahi, Alhani, &Ahmadi (2014)
factors of the gap between education and treatment	References
<ul style="list-style-type: none"> ○ No need to courses taught in university at bedside (30) 	Henderson (2002)
<ul style="list-style-type: none"> ○ Boldness of theory compared with practice (29) 	Aston, Mallik, Day, & Fraser (2000)
<ul style="list-style-type: none"> ○ Distance between theoretical knowledge and actual practice (43) 	Corlett, Palfreyman, Staines, & Marr (2003)
<ul style="list-style-type: none"> ○ No clarity of theoretical knowledge in practice (44) 	Ekebergh, Leep, & Dahlberg (2004)
<ul style="list-style-type: none"> ○ Communication problems between university nurses and bedside ○ Difference in theoretical and clinical knowledge (32) 	Segaric & Hall (2005)
<ul style="list-style-type: none"> ○ Lack of skilled human resources at university and at bedside (33) 	Spitzer &Perrenoud (2006)
<ul style="list-style-type: none"> ○ Transferring education from hospitals to universities (45) 	Baxter (2007)
<ul style="list-style-type: none"> ○ Inconsistency between clinical environments and schools ○ Lack of realism and the birth of theoretical and clinical education ○ Inappropriate performance of role models in education and clinical practice ○ Incongruity between university and bedside ○ Unsupported organizational climate of education and treatment ○ No definition of regulatory relationships for mutual responsibilities between education and treatment ○ Lack of coordination between medical and nursing programs at university and within treatment process (35) ○ No legal relationships between education and practice in nursing (35) 	Cheraghi, Salsali, &Ahmadi (2008)
<ul style="list-style-type: none"> ○ Differences in expectations among university lecturers and supervisors in departments ○ Differences in contexts and backgrounds of university and bedside ○ Abstract nature of theory and actual nature of practice 	Evans, Guile, Harris, & Allan (2010)
<ul style="list-style-type: none"> ○ Differences in language and atmosphere dominating education and clinical environments (38) 	Shokati Ahmad Abad, &Mohammadi (2011)
<ul style="list-style-type: none"> ○ Transition shock ○ Differences in cultural backgrounds and theoretical and practical aspects (47) 	Hatlevik (2012)
<ul style="list-style-type: none"> ○ Professional participation (managers' partnership, education and bedside, participation in theoretical and clinical education) (41) 	Elahi, Alhani, &Ahmadi (2014)

DISCUSSION

This study aimed at investigating the causes of the gap between theory and practice in nursing. Accordingly, the findings showed that the causes of the theory and practice gap in nursing consisted of three general categories of theoretical education factors, clinical education factors, and factors affecting the gap between education and treatment.

Theoretical Education Factors

What is of importance is meaningful and purposeful nursing education, so that theoretical education will enhance and improve the level of university students' performance and clinical practices can raise the needs of theoretical education. Keighobady and et al study showed that among the stressful factors of theoretical education, "the lack of readiness of teaching and learning experience" and stressors, "a large number of students in the classroom, working with those who differ from the habits and values of work and maintain The level of professional knowledge in accordance with the new sciences and professional development "has a high degree of tensions, respectively.

(48). Also, in the field of quality education, the greatest impact on the adaptation of the theory of education and clinical care is the level of education and the level of educators' education is of particular importance to be taken into consideration.

Clinical Education Factors

Clinical education is considered as the foundation and the framework of nursing education, thus learning and gaining skills at bedside are recognized as the most desirable teaching methods (50). Moreover, nursing education planners have also considered the main part of nursing education as clinical education and they believe that nursing students can develop their theoretical knowledge through working in practical environments and facing with different problems and issues (51). Citing Quesy, Shokati shed light on a study in the United States entitled as the impact of teacher's role as an educator on experiences and clinical

learning by nursing students providing care in a department of orthopedics. The results of this study revealed that clinical experiences could reflect the level of education and learning activities by individuals. Additionally, patient care could show that the more clear and the more fruitful the learning, the better and the more useful the patient care; which could consequently lead to reduced gap between theory and practice (38). Since theory is born at bedside and then it is refined by research and returns to bedside, gaining professional qualifications depends on knowledge-based practices in that profession and successful systems are those whose theoretical paradigms are converted into effective and administrable prescriptions (36).

Considering clinical and nursing theory as the applicants of nursing knowledge development in all domains, the application and production of knowledge should be conducted together. However, it is argued that theory and practice can never be the same but both of them are essential for nursing. The theory can provide a broad view for an individual in order to increase their abilities to maneuver. Whether theory comes through experiences or exists before experiences, we need it. But, there must be also a gap between theory and practice because if there is no gap, it is no longer called theory and it is in fact labeled practice. Nevertheless, it is necessary to travel this distance at any step. What makes people assume theory of no use in practice is that they cannot find a connection between theory and practice or the theory is so abstract that it is perceived different from practice. If people are empowered in terms of connecting theory to practice, the gap between theory and practice cannot be considered negative. Removing this distance is not similarly desirable and sometimes its maintenance is beneficial. The basis and the essence of theory are also on distance and if it is coordinated with a position, it cannot be generalized to other cases. Theory is similarly established through distancing from cases and distance is a necessity for creating theory. The gap between theory and practice should be always dynamic and the optimal distance must be maintained (11). Moreover,

clinical nurses get engaged in traditional routines after some time (5) and they rarely think of filling the gap between education and practice because they are unfamiliar with research methodology and research with internal and external motivation factors are not institutionalized (52). In such circumstances, the educational dimensions of the challenge of theory-practice gap have been delineated. According to the results of the related literature, it seems that there is a significant theory-practice gap in nursing profession and it should be closed with changes in curriculums and planning methods in nursing courses. In other words, the gap between what is taught in classrooms and what is offered at bedside is considered as a major problem in nursing. Most studies in this domain in the world have suggested a significant difference between theoretical learning and clinical nursing services.

Factors Affecting the Gap between Education and Practice

Although some researchers have investigated various clinical factors (such as role of clinical nursing team in clinical learning by students, students' readiness for entry into practice, professional nursing qualifications, etc.), managerial factors (curriculum planning, evaluation, and revision; consistency between educational contents and clinical practices in internship, nursing care services in hospitals, standardization and evaluation of nursing education programs, etc.), and research factors (application of research results in clinical practices by nurses, inhibitors and facilitators of research-based practices, etc.); it should be acknowledged that considering one dimension cannot help in reducing the given gap and only a comprehensive and multidimensional view in this regard can fill such a gap.

In a research study conducted at the University of London entitled as the effect of clinical education on reducing the gap between theory and practice among three groups; 14.3 % of the first group, 17 % of the second group, and 16.1 % of the third group stated that such educational method had made teaching and practice consistent with each

other (38). Moreover, different research findings have underlined the importance of the link between theoretical knowledge and practical skills of university students in a clinical setting. So far, the gap between theory and practice in nursing has been much discussed. Furthermore, university context is considered as an educational one in which theory and professional systems of knowledge are acquired and hospitals are taken into account as practical environments wherein theoretical learning should be applied with the least requirements for supervision and subsequent trainings. It should be noted that hospitals are settings for growth and development of new ideas; however, they might be seen as inflexible contexts that are rooted in routines. Studies on the organization of hospitals have also shown that structural barriers and routines can pose problems to the implementation of theory in practice (53, 54). Such barriers have been also emphasized by participants in studies conducted in hospitals. Thus, they can provide a context to welcome students and also help them to experience all their knowledge in real clinical world through adopting thinking approaches of clinical learning (55). Limitation of this study

CONCLUSION

The causes of the gap between thought and behavior or theory and practice were based on three main axes of theoretical education, clinical education, and the gap between education and treatment. Likewise, the distance and the gap between theoretical education and clinical education are considered as challenges that, despite creating many problems in the educational process, can be used for professional change and development. Moreover, clinical education is so complicated with numerous dimensions that it can be included in the process of improving clinical education. Thus, changes in teaching methods and the use of active teaching methods are of significance. As well, integration of knowledge and practice and the role of learning environment particularly clinical education environment and clinical expertise of educators in improving the quality of education are of utmost importance.

Therefore, it seems that basic measures should be taken in the direction of the applications of nursing courses and reducing the gap between theory and practice in this discipline. Integration is also required in educational and clinical sectors to minimize the differences in theoretical education and clinical practices and also make changes in clinical practices by nurses. In this respect, scientific issues and new nursing education points taught in educational sectors should be also utilized. It is hoped that implications of the results of this research contribute to educators and students to have successful clinical teaching and learning. Finally, it is suggested to conduct further investigations on each concept obtained from others' research extracted from this study. The limitation of this elimination was the removal of some papers that were not written in Persian and English.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this article.

REFERENCES

- Pollard C, Ellis L, Stringer E, Cockayne D. Clinical education: a review of the literature. *Nurse Education in Practice*. 2007;7(5):315-22.
- Nahas VL, Nour V, Al-Nobani M. Jordanian undergraduate nursing students' perceptions of effective clinical teachers. *Nurse Education Today*. 1999;19(8):639-48.
- Midgley K. Pre-registration student nurses perception of the hospital-learning environment during clinical placements. *Nurse Education Today*. 2006;26(4):338-45.
- Benor DE, Leviyof I. The development of students' perceptions of effective teaching: the ideal, best and poorest clinical teacher in nursing. *Journal of Nursing Education*. 1997;36(5):206-11.
- Hosseiny N, Karimi Z. The situation of clinical education based on nursing students' opinion in Yasuj nursing and Midwifery School. *Iranian Journal of Medical Education*. 2005;5(2):171-5. [Persian]
- Rahimi A, Ahmadi F. The obstacles and improving strategies of clinical education from the viewpoints of clinical instructors in Tehran's Nursing Schools. *Iranian Journal of Medical Education*. 2005;5(2):73-80. [Persian]
- Valizadeh S, Abedi H, Zamanzadeh V, Fathiazar E. Challenges of nursing students during their study: A qualitative study. *Iranian Journal of Medical Education*. 2008;7(2):397-407. [Persian]
- Pazokian M, Rassouli M. Challenges of nursing clinical education in world. *Journal of Medical Education Development*. 2012;5(8):18-26. [Persian]
- Hadizadeh F, Firoozi M, Shamaeyan Razavi N. Nursing and midwifery students perspective on clinical education in Gonabad University of Medical Sciences. *Iranian Journal of Medical Education*. 2005;5(1):70-8. [Persian]
- Salvoni M. Joint appointments: another dimension to building bridges. *Nurse Education Today*. 2001;21(1):65-70.
- Hosseini M, Sepahvand M, Mohammadi Shahbolaghi F, Neyseh F, Bagheri Noaparast K. Gap between theory and practice in nursing: Be or Not. *Journal of Nursing Education*. 2016;5(1):23-9. [Persian]
- Corlett J. The perceptions of nurse teachers, student nurses and preceptors of the theory-practice gap in nurse education. *Nurse Education Today*. 2000;20(6):499-505.
- Stark S, Cooke P, Stronach I. Minding the gap: some theory–practice disjunctions in nursing education research. *Nurse Education Today*. 2000;20(2):155-63.
- Cheraghi M, Salsali M. To understand the process of theory and practice gap in nursing education in Iran. *Iranian Journal of Public Health*. 2005;34(Sup):26-7. [Persian]
- Petro-Nustas W, Mikhail BI, Baker OG. Perceptions and expectations of Baccalaureate-prepared nurses in Jordan: Community survey. *International Journal of Nursing Practice*. 2001;7(5):349-58.
- Salehi S, Abedi HA, Alipour L, Najafipour S, Fatehi N. Learning activities and clinical

- nursing services gap and the related factors: a comparative study. *Iranian Journal of Medical Education*. 2001;1(3):43-9. [Persian]
17. Maben J, Latter S, Clark JM. The theory–practice gap: impact of professional–bureaucratic work conflict on newly-qualified nurses. *Journal of Advanced Nursing*. 2006;55(4):465-77.
 18. Rolfe G. *Closing the theory-practice gap: a new paradigm for nursing*: RCN Publishing Company Limited; 1996.
 19. Salehiyan M, Armat M. A qualitative about nursing students experiences to clinical education. *Journal of North Khorasan University of Medical Sciences*. 2009;1(2):57-63. [Persian]
 20. Rassouli M, Zagheri Tafreshi M, Esmaeil M. Challenges in clinical nursing education in Iran and strategies. *Journal of Clinical Excellence*. 2014;2(1):11-22. [Persian]
 21. Mardani Hamuleh M, Heidari H, Changiz T. Evaluation of clinical education status from the viewpoints of nursing students. *Iranian Journal of Medical Education*. 2011;10(4):500-11. [Persian]
 22. Nouhi E, Kohan S, Haghdoost A, Nazari R. Theoretical Nursing Courses Application in Clinical Field: Clinical Nurse Teachers & Students Perspectives in Mazandaran University of Medical Sciences. *Iran Journal of Nursing*. 2007;20(52):29-38. [Persian]
 23. Zeighami R, Saadatju A, Khorasani P, Afshani S, Ganjehe S, Jafarian H, et al. Providing national draft on bridging education service gap in Iran. *Journal of Nursing Education*. 2014;3(2):68-75. [Persian]
 24. Ousey K. Bridging the theory–practice gap? The role of the lecturer/practitioner in supporting pre-registration students gaining clinical experience in an orthopaedic unit. *Journal of Orthopaedic Nursing*. 2000;4(3):115-20.
 25. Heshmati NF, Vanaki Z, Mohammadi I. Barrier to forming and implementing academic service partnership in nursing; A qualitative study. 2010: 32-36. [Persian]
 26. Salehi S, Hassan Zahrayi R, Ghazavi Z, Amini P, Ziaei S. The characteristics of effective clinical teachers as perceived by nursing faculty and students. *Iranian Journal of Medical Education*. 2004;4(1):37-44. [Persian]
 27. Gardner G, Chang A, Duffield C. Making nursing work: breaking through the role confusion of advanced practice nursing. *Journal of Advanced Nursing*. 2007;57(4):382-91.
 28. Yang W-P, Chao C-SC, Lai W-S, Chen C-H, Shih YL, Chiu G-I. Building a bridge for nursing education and clinical care in Taiwan—Using action research and Confucian tradition to close the gap. *Nurse Education Today*. 2013;33(3):199-204.
 29. Aston L, Mallik M, Day C, Fraser D, Group CR. An exploration into the role of the teacher/lecturer in practice: findings from a case study in adult nursing. *Nurse Education Today*. 2000;20(3):178-88.
 30. Henderson S. Factors impacting on nurses' transference of theoretical knowledge of holistic care into clinical practice. *Nurse Education in Practice*. 2002;2(4):244-50.
 31. Hughes SJ. The mentoring role of the personal tutor in the Fitness for practice curriculum: an all Wales approach. *Nurse Education in Practice*. 2004;4(4):271-8.
 32. Segaric CA, Hall WA. The family theory–practice gap: a matter of clarity? *Nursing Inquiry*. 2005;12(3):210-8.
 33. Spitzer A, Perrenoud B. Reforms in nursing education across Western Europe: implementation processes and current status. *Journal of Professional Nursing*. 2006;22(3):162-71.
 34. Elliott M, Wall N. Should nurse academics engage in clinical practice? *Nurse Education Today*. 2008;28(5):580-7.
 35. Cheraghi MA, Salasli M, Ahmadi F. Factors influencing the clinical preparation of BS nursing student interns in Iran. *International Journal of Nursing Practice*. 2008;14(1):26-33. [Persian]

36. Heydari A, Soudmand P, Hajiabadi F, Armat M, Rad M. The causes and solutions of the theory and practice gap from nursing education view point: A review article. *Journal of Medical Education Development*. 2014;7(14):72-85.
37. Ajani K, Moez S. Gap between knowledge and practice in nursing. *Procedia-Social and Behavioral Sciences*. 2011;15:3927-31.
38. Shokati Ahmad Abad M, Mohammadi E. Evaluation of gap between theoretical and clinical education in critical care nursing. *Modern Care Journal*. 2005;2(3):9-15. [Persian]
39. Nairn S, Chambers D, Thompson S, McGarry J, Chambers K. Reflexivity and habitus: opportunities and constraints on transformative learning. *Nursing Philosophy*. 2012;13(3):189-201.
40. Chan EA, Chan K, Liu YWJ. A triadic interplay between academics, practitioners and students in the nursing theory and practice dialectic. *Journal of Advanced Nursing*. 2012;68(5):1038-49.
41. Elahi N, Alhani F, Ahmadi F. Professional partnership: nurses' experience of theory–practice gap in nursing education. *Journal of Nursing Education*. 2014;3(1):21-31. [Persian]
42. McCrae N. Whither Nursing Models? The value of nursing theory in the context of evidence-based practice and multidisciplinary health care. *Journal of Advanced Nursing*. 2012;68(1):222-9.
43. Corlett J, Palfreyman JW, Staines HJ, Marr H. Factors influencing theoretical knowledge and practical skill acquisition in student nurses: an empirical experiment. *Nurse Education Today*. 2003;23(3):183-90.
44. Ekebergh M, Lepp M, Dahlberg K. Reflective learning with drama in nursing education—a Swedish attempt to overcome the theory praxis gap. *Nurse Education Today*. 2004;24(8):622-8.
45. Baxter P. The CCARE model of clinical supervision: Bridging the theory–practice gap. *Nurse Education in Practice*. 2007;7(2):103-11.
46. Evans K, Guile D, Harris J, Allan H. Putting knowledge to work: A new approach. *Nurse Education Today*. 2010;30(3):245-51.
47. Hatlevik IKR. The theory-practice relationship: reflective skills and theoretical knowledge as key factors in bridging the gap between theory and practice in initial nursing education. *Journal of Advanced Nursing*. 2012;68(4):868-77.
48. Keighobady, S, Salemi, S, Resadi, M, Mahmoodi, M. Stressors of nursing theoretical education. *IJN*. 2001; 13 (27) :19-23
49. Smith BE. Linking theory and practice in teaching basic nursing skills. *Journal of Nursing Education*. 1992;31(1):16-23.
50. Mollahadi M. Importance of clinical educating in nursery. *Education Strategies in Medical Sciences*. 2010;2(4):153-9. [Persian]
51. Baraz Pordanjani Sh, Fereidooni Moghadam M, Loorizade M. Clinical education status according to the nursing and midwifery students' point of view, Tehran University of medical sciences. *Strides in Development of Medical Education*. 2009; 5(2): 102-12.
52. Mehrdad N, Salsali M, Kazemnejad A. The facilitative and preventive factors of implementation of research findings in nurses clinical practice. 2007: 63-72.
53. Long DM. Competency-based residency training: the next advance in graduate medical education. *Academic Medicine*. 2000;75(12):1178-83.
54. Marel GM, Lyon PM, Field MJ, Barnsley L, Hibbert E, Parise A. Clinical skills in early postgraduate medical trainees: patterns of acquisition of confidence and experience among junior doctors in a university teaching hospital. *Medical Education*. 2000;34(12):1013-5.
55. Jackson D, Mannix J. Clinical nurses as teachers: insights from students of nursing in their first semester of study. *Journal of Clinical Nursing*. 2001;10(2):270-7.