

The barriers of clinical education in nursing: A systematic review.

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Abstract

Considering the great significance of proper clinical education in training nurses qualifying for provision of quality care, this study has been conducted with the aim of investigating the obstacles against clinical education among the nurses. In this systematic review study, international databases (PubMed, Web of Science, Scopus, CINHALL, EMBASE, ERIC, Google scholar, as well as national banks including Magiran and SID) were searched from the time of inception until January 30, 2018. The obstacles of clinical education in individual areas (associated with students (Lack of motivation in students), professors (Absence of experience professor with a high academic level), and nurses (Personnel uncooperativeness)), managerial (Shortage of time), facilities (Deficit of facilities and working conditions), structures, and other areas were identified. Based on the obstacles identified across various dimensions, proper plans and strategies should be designed and implemented with each of the obstacles to enhance the quality of clinical education.

Keywords: Clinical education, Nursing education, Barriers, Systematic review.

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Introduction

Today, considering the change in learning needs, changes of the pattern of diseases, and increased care needs, on the one hand, and the shortage of nurses as the largest part of the healthcare team as well as very high cost in nursing and medical education, on the other, the importance of caring for proper clinical education has been multiplied [1-6]. Proper clinical education alongside theoretical education is one of the most important parts of education in nursing, in which the care behaviors of nurses are formed [6-10]. Also, the objective of nursing which is providing proper high-quality care is realized through this [1,11-13]. Clinical practice is considered an opportunity for learning skills by nurses, which unlike theoretical classes, it is a very complex context packed with challenges in different dimensions [14-16]. Proper educational setting in clinical practice is one of the very important factors in the learning of students and nurses to provide quality care to patients [17-20]. Therefore, understanding the obstacles against clinical education can result in better and faster recognition of the obstacles against clinical education, finding solutions, and resolving them through enhancing learning quality, preventing expenditure of nonessential costs, and determining better strategies based on the recognized obstacles [21-29]. The studies conducted in this area suggest that most studies have investigated the obstacles individually, and only in a few of

them which have reviewed the literature of obstacles of clinical learning, the most important obstacles included time and financial constraints as well as lack of access to evidence-based literature [18,30-33]. Considering the crucial importance of understanding the factors and search by the researcher, so far no study has been conducted as systematic review to examine the obstacles against clinical education as the most important dimension of nursing education to train qualified nurses for providing quality healthcare services [34-36]. This systematic review study has been conducted with the aim of investigating the obstacles against clinical education of nurses.

Method

Inclusion criteria

This study has been composed based on the guideline for conducting systematic review studies (Cochran) and using PRISMA checklist [37]. This study protocol registered in PROSPERO (ID: CRD42018096394). Inclusion criteria were included: all observational studies (descriptive, descriptive analytical, case-control, and cohort) published in peer-reviewed journals were included. Only the papers in Persian and English were included. All the studies which had examined the obstacles of clinical education from the view of nurses, professors, and students of nursing with quantitative

approaches were included. The minimum sample size of studies included should have been at least 25. The main objective in this study was to examine the obstacles against clinical education, while the secondary objective was to offer suggestions to reduce clinical education obstacles.

Search strategy

In this study, international databases (PubMed, Web of Science, Scopus, Cumulative Index to Nursing and Allied Health Literature (CINHAL), The Excerpta Medica database (EMBASE), Education Resources Information Center (ERIC), Google scholar) as well as national databases (Magiran, Scientific Information Database (SID)) were searched from the time of inception until January 30, 2018. The utilized keywords were determined based on Medical Subject Headings (MESH) and Emtree, and then merged together using NOT, AND, and OR operators. The utilized keywords in Persian and English included obstacles, barriers, clinical education, clinical learning, and nursing.

Selecting the studies and extracting information

According to the study protocol and the inclusion criteria, two researchers investigated the title and abstract of the studies separately, and then the repeated cases were eliminated. In the next stage, the full text of the papers was examined and the necessary information was extracted. In cases where disagreement occurred for selecting the studies, consensus method was used to resolve the disagreement between the two writers. The items of the extracted information included general information (first author, year, country, sample size, data collection method) and implication (the utilized instrument, obstacles of clinical education, and suggestions).

Quality of studies

Investigation of the quality of studies was performed using strengthening the Reporting of Observational Studies in Epidemiology (STROBE) standard instrument [38] which is used for observational studies. Guided by the 22 items a score was assigned independently to each study. Scores were reviewed, and discrepancies were resolved by consensus. Studies with scores of 14 or below out of 22 possible points were categorized as low quality; those with scores of 15-17 as medium quality, and studies with scores of 18 or higher were categorized as high quality.

Results

General results

Selection of studies: Overall, based on the primary search across different databases, 1748 papers were found, out of which 1534 were non-repeated. In the next stage, the non-repeated papers were investigated based on their title and abstract, and 1504 papers were removed due to their incongruence with the objective of this study and inclusion criteria. In the next stage, 30 papers were investigated as full-

text, where 10 studies entered the final stage. Twenty papers were excluded at this stage, where 7 were review, 11 were qualitative, and one lacked full text. One paper had a target population other than healthcare team (Figure 1).

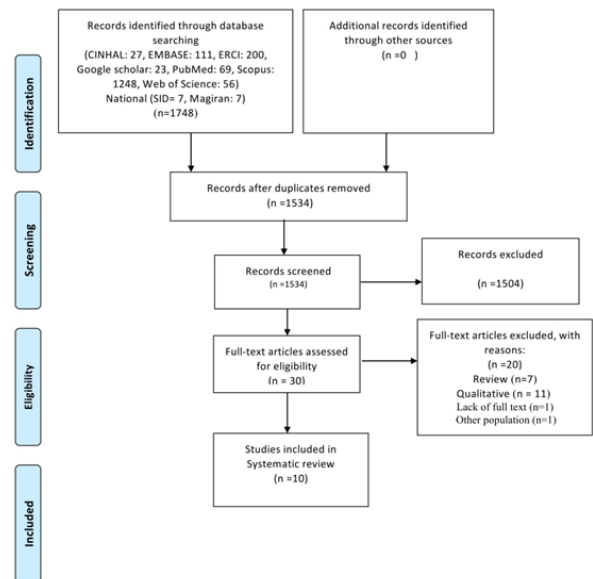


Figure 1. Study selection process.

The characteristics of the included studies: All of the included studies had been conducted in Iran in their final stage (n=10) and descriptively on 1468 participants. The mean age of the participants was 26.59 (8.1 y old). The sampling had been conducted as census (n=8) in most of the studies (Table 1). All of the included studies had a quality above 50%.

Instruments: Most of the instruments used in the present study have been researcher made, which had been developed based on investigating the literature and by the researchers. Only two studies had used standard instruments [13,39]. The number of items in the instruments was 20-59. Further, in two studies, the number of items had not been mentioned properly [40,41]. The validity of the instruments had been investigated by 9-10 experts. Further, regarding the reliability of the instruments, the Cronbach alpha ranged from 0.75 to 0.94 across different instruments [13,40-48] (Table 2).

The obstacles of nursing clinical education

Defining the obstacles of clinical education in nursing is very important and lead to increase of quality of education in clinical nursing cares. The obstacles mentioned in different studies varied considerably. However, based on main factors, they can be divided into four areas: individual (the obstacles associated with student, professor, and nurses), management, facilities, and others. In the area of individual factors, the most important obstacle against clinical education related to the students based on the different studies was lack of motivation in the students [40,41]. The most important obstacles against clinical education associated with professors included shortage of experienced professors with a high academic level, not stating the educational objectives for the students, and not

assessing the students' activities by trainers based on internship objectives [13,40,41,45,47]. The most important obstacles against clinical education associated with nurses included inadequate knowledge and skill and uncooperativeness of the personnel [13,40,41,43,48]. In the area of management, the most important obstacles against clinical education included the mismatch between clinical education objectives and the expectations of the hospital personnel and shortage of time [13,43,44,47]. In the area of facilities and structures, the most important obstacles against clinical education included shortage of facilities and their working conditions, lack of

access to conference room, and poor educational planning [13,39-41,43-45,47,48]. Other clinical education obstacles included not recognizing the role of nurses as teachers for patients and the society, as well as uncooperativeness of the patient and neglecting the education (Table 3) [42].

The frequent solutions presented for reducing the obstacles against clinical education included: developing proper facilities and equipment in clinical centers, increasing the motivation of students, and taking measures to incorporate clinical education in nursing curricula (Table 2).

Table 1. The general characteristics of the studies included in the systematic review.

First author (year)	Country	Study design	Study participants	Age	Gender (male/female)	Sampling method
Salehabadi [41]	Iran	Descriptive	129	22.19	23/93	Census
Dehghani [42]	Iran	Descriptive sectional	cross- 271	29.6	53/218	Census
Gholami [43]	Iran	Descriptive	95	25.15	38/57	Census
Heidari [44]	Iran	Descriptive sectional	cross- 150	21.58	51/99	Census
Jahanpour [45]	Iran	Descriptive sectional	cross- 58	Not mentioned	35/21	Census
Jahromi [13]	Iran	Descriptive sectional	cross- 78	21.66	47/31	Census
Moghimi [47]	Iran	Descriptive sectional	cross- 108	22.37	86/22	Census
Rahimi [40]	Iran	Descriptive sectional	cross- 38	40.5	29-Sep	Random
Rezaei Nik [48]	Iran	Descriptive - analytical	384	20-40	274/66	Multistage randomized
Tanomand [39]	Iran	Descriptive - analytical	157	34.64 professors	17/33	Census
				23.18 students	18/89	

Table 2. The utilized instruments, obstacles, and suggestions for resolving the obstacles against clinical education in nursing.

Author	The utilized instrument	Suggestions
	1. Type and components	
	2. Number of items	
	3. Reliability and validity	
Salehabadi [41]	1. Researcher made questionnaire, including three sections: demographic information, problems of clinical education, and solution for improving it for trainers and students.	Creating a balance in the number of students in internship groups
	2. Has not been mentioned.	Making the students aware about the consequences resulting from mistakes
	3. The instrument was provided for 20 students and 10 faculty members, and the reliability was confirmed by a Cronbach alpha of 0.85.	Assessing the students for relegating tasks
Dehghani [42]	1. Researcher made consisting of two sections: demographic characteristics and the obstacles of education to the patient.	
	2. 33 items	Providing a sufficient number of personnel, prioritizing education of nurses in daily tasks

	3. It was given to 10 faculty members and the reliability was confirmed by Cronbach alpha of 0.91.	developing the culture for approving education by patients
Gholami [43]	1. Researcher made consisting of two parts (demographic-assessing the opinions of students about the obstacles against clinical education) 2. 59 3. It was given to 10 faculty members and the reliability was confirmed by Cronbach alpha of 0.94 and 0.84.	Most of these obstacles can be amended and by resolving these obstacles, one can achieve improved performance of students and eventually provision of effective and safe care.
Heidari [44]	1. Researcher made 2. 31 3. It was given to 10 faculty members and the reliability was confirmed with a Cronbach alpha of 0.93.	Since the opinions of students can effectively contribute to enhancing the quality of clinical education, the nursing students' opinions should be measured periodically
Jahanpour [45]	1. Researcher made-demographic and obstacles of clinical education in pediatric ward 2. 30 3. It was given to 10 faculty members, and the reliability was confirmed by Cronbach alpha 0.91.	It is suggested that the relevant authorities and planners of nursing education take steps to improve the motivation and learning of students using the research results by identifying the obstacles ahead of clinical education of the pediatric ward for students and trainers.
Jahromi [13]	1. Standard-including the obstacles and facilitators of clinical education 2. 20 items 3. for obstacles: 0.75; for facilitators: 0.78.	The educational methods are recommended to be used three useful strategies. The educator nurses should have adequate skill. Educating patients should be taken more seriously in academic curricula.
Moghimi [47]	1. Researcher made-demographic, factors, and obstacles 2. 20 items 3. It was given to 10 experts and the reliability was confirmed with a Cronbach alpha of 0.81.	Reviewing and taking suitable measures by academic authorities seem to be essential for a suitable clinical education setting including facilities and equipment of clinical setting and reviewing the instruments and processes of clinical education
Rahimi [40]	1. Researcher made including four sections: demographic, clinical obstacles, solutions, and problems). 2. Not mentioned exactly 3. It was given to nine nursing experts, and the reliability was confirmed by Cronbach alpha of 0.89.	More attention by nursing planners and authorities for proper planning for clinical practice Employing experienced and skilful trainers Encouraging and developing interest in students
Rezaei Nik [48]	1. Researcher made 2. 26 3. It was given to 10 nursing experts, where the Cronbach alpha reliability for obstacles and facilitators was 0.78 and 0.86, respectively.	One of the most important current obstacles is individual obstacles. To reduce or improve this challenge, cooperation should be developed between trainer, clinical nurses, academic supervisor, head nurses, nursing managers, the educational planner, and other top-level management authorities.
Tanomand [39]	1. Standard 2. 22	The facilities and equipment of clinical setting and reviewing the system of recording and reporting according to nursing standards should be improved.

3. The reliability was confirmed by Cronbach alpha of 0.87.

Table 3. *Classifying the obstacles against clinical education.*

Dimensions of obstacles	Sources	Obstacles
Individual dimension	Student	Lack of motivation in students [40,41]
		Lack of proper communication between students and the ward personnel [47]
		Not adhering to order and discipline by the student [47]
		Lack of proper communication between students and professor [47]
	Professor	Absence of experience professor with a high academic level [13,40,41,47]
		Lack of suitable motivation in trainers [41]
		Emphasizing theoretical aspects in educational work [41]
		Not stating the educational objectives for students [45,47]
		Being unfamiliar with educational methods [47]
		Absence at essential hours in the ward [47]
		Not assessing the students activities based on the internship objectives by the trainers [45,47]
		Inadequate feedback to students [43]
		Relegating heavy and difficult tasks to students [43]
		Lack of proper communication between students and professor [47]
		Not emphasizing pre-study by trainers [43]
		Nurses
	Not implementing the process by the personnel [41]	
	Lack of physical and psychological preparation [13]	
	Fatigue [48]	
	Inadequate knowledge and skill [13,40]	
	Not planning education to the patient in the daily task of nurses as a duty [42]	
	Personnel uncooperativeness [41,43,48]	
	Improper treatment of the personnel [43]	
	Management dimension	Large number of students in internship groups [41]
		Discrimination between nursing students and the students of other medical sciences [41]
		The patient or their companions complaining about performing nursing affairs by students [48]
		Unsuitable internship time [47]
		Mismatch between the objectives of clinical education and expectations of the hospital personnel [43,44]
		Shortage of time [13,47]
		Not prioritizing education in the description of duties [42]
		Not gaining score for the nurse to train the patient [42]
		Mismatch between the number of patients and number of nurses [42]
		The dimension of facilities and structures
Limited cases in the wards [41]		

	The hospital being non-academic [41]
	Lack of access to the conference room [39,43]
	Poor educational planning [40,44,47,48]
Others	Not recognizing the role of nurses as teachers for patients and the society [10]
	Uncooperativeness of the patient and neglecting education [42]

Discussion

The present systematic review study was conducted with the aim of investigating the obstacles against clinical education of nursing in internal and foreign databases until January 30, 2018. In the present study, the most important obstacles against clinical education mentioned in different studies were categorized into four groups: individual area (obstacles associated with students, professors, and nurses), management, facilities, and others. Similar studies conducted in the area of obstacles against clinical education were in the form of review of literature. For this reason, after investigating them, the results of qualitative studies have also been used in the discussion. An integrated review study conducted by Santos indicated that the most important obstacles against nurses' learning were time constraints, financial constraints, the culture of the workplace, access, and matching of new technologies to acquire knowledge. In the dimensions of time constraints and culture of workplace, access, and matching through new technologies to acquire knowledge based on evidence, it confirms the results of the present study [1]. Another study conducted by Foster et al about the challenges of clinical education of nurses indicated that the obstacles of clinical education included unclear description of duties which take much of the nurse's time, and instead of dealing with more essential duties, they seek to resolve the peripheral problems of patients; high working load as well as time and financial constraints which prevent use of robust clinical evidence in education, which is in line with the present study [49]. The results of a qualitative study by Abbaszadeh et al. suggested that the most important challenges of clinical education included development of learning potentials in practice (the professor presentation power and student presentation power), confronting the conflicts of real practice (ineffective planning and executive obstacles of acquiring clinical skill), efficient clinical education (assessment-oriented flexible planning, effective clinical professor, and moving beyond dependence towards independence in practice), and professional challenges in the future (professional version and unsafe clinical setting) [2]. In this regard, the results of the present study in individual dimensions related to professor and students confirm the management dimensions. However, it also mentions professional challenges in the future, which were not found in the present study [2]. Another study conducted by Alavi et al. indicated that the most important obstacles against clinical education according to students were tension, conflict, and lack of access to direct experience [50]. Conflict indeed represented problematic communication, which is in line with the results of the present study. However, the dimensions of conflict and lack

of direct access to experience were not observed in the present study, which can be due to the qualitative nature of the investigative the study and the different sample size of subjects [50]. The study by Jamshidi et al. showed that the most important obstacles against clinical education were ineffective communication, inadequate preparation for emotional reactions, which regarding ineffective communication and inadequate preparation, it confirms the results of the present study [46]. However, regarding the dimension of emotional reactions which refer to tensions in clinical education, it was not found in the present study [46].

The most important solutions of the present study to reduce the obstacles of clinical education were: creating suitable facilities and equipment in clinical centers, increasing the motivation of the students, and taking measures to incorporate clinical education in nursing curricula, which are in line with the results of different studies [1,2,46,50].

Limitations

The most important limitations of the present study were:

1. In spite of searching different databases, the information resources in this regard with systematic review approach were limited.
2. In spite of using systematic search strategy with the relevant words, all of the included studies were related to one country.
3. In some cases, the information of the studies was not available. To resolve this, the authors were contacted.

Strengths

1. The present study is the first systematic review study for this purpose.
2. Use of systematic review approach for searching and organizing studies.

Conclusion

The present systematic review study indicated that the most important obstacles of learning were categorized individual, management, facilities, and equipment dimensions. Considering the importance of each dimension, regarding the individual dimension associated with students, some plans should be developed to increase the motivation of the students and hold effective communication workshops. More important is employing more experienced professors with a higher academic level in the clinical practice, so that they can

generate interest in the students effectively to acquire clinical skills. Further, in the dimension of nurses, since they are the so-called best individuals for education because of being in the clinical setting and alongside the patient bed, and it is recommended to care for management dimensions of obstacles and through incorporating the clinical education curriculum into the description of nurses' duties, proper planning of nurses' shifts, and granting score to individuals interested in clinical education, their attention to clinical education should be improved. In the management dimension, the most important strategy can be proper planning for the number of nursing students in the right wards, so that all the students can equally use the opportunities developed in the clinical practice for learning. In the dimension of equipment and facilities, the necessary financial resources for equipping the libraries of hospitals and creating evidence-based centers through new technologies should be taken seriously.

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