

The factors affecting effective clinical education from the viewpoint of students, Nursing Trainers, and nursing staff

Saeedeh Elhami (1)

Maryam Heidari (2)

Maryam Ban (3)

Sajedeh Mosaviasl (3)

Mohammad Khavasi (3)

(1) Student research committee, Abadan school of medical sciences, Abadan, Iran

(2) Instructor, department of medical-surgical nursing, Abadan school of medical sciences, Abadan, Iran

(3) Abadan school of medical sciences, Abadan, Iran

Corresponding author:

Mohammad Khavasi

Abadan school of medical sciences,
Abadan, Iran

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Abstract

Background: The planners of nursing training consider clinical training as the central part in nursing education. This research was conducted with the aim of determining the factors affecting effective clinical education in the viewpoint of students, trainers, and nursing officials of Abadan University of medical sciences. Hopefully, we can take effective steps by identifying these factors and presenting as well as employing the practical solutions for achieving educational objectives, training skilled individuals, and enhancing the quality of care services.

Method: In this descriptive cross-sectional study, the study population consisted of all students, instructors and nursing staff of the hospitals affiliated to the Faculty of Medical Sciences of Abadan who were included in the study. The data collection instrument included two sections, demographic information and a checklist of factors affecting clinical education. The sampling was performed with an in-person visit by the interviewer to the site of apprenticeship in the wards and the data were analyzed statistically.

Results: The views of students, instructors and nursing staff indicate that individual characteristics and clinical educators have a greater impact on clinical education than other areas ($p < 0.005$).

Conclusion: Based on the results of this research paying attention to the trainers and improving their personal characteristics, employing competent trainers, systematic curriculum development and planning, providing a suitable clinical environment, presentation of solutions to enhancing clinical learning in students, and timely reflection of problems by educational officials can facilitate and improve the process of effective clinical training.

Key words: clinical education, nursing students, Nursing Trainers, nursing staff

Introduction

Nursing is a complex and difficult profession, which takes steps towards physical, mental, and social health through its special sciences and skills. Further, as an academic major, through its special knowledge and skills, it offers services to healthy and patient individuals across different centers. Therefore, during academic courses, a nursing student not only needs to acquire knowledge but also to gain clinical skills. The planners of nursing training consider clinical training as the central part in nursing education (1), and the value of ideal clinical training in individual and professional development as well as clinical skills of nursing is undeniable (2). Clinical training can be considered as a facilitator of learning in clinical environments, in which the clinical trainer and student contribute the same, and the aim is to develop measurable changes in the student for clinical care (2-8). Clinical training provides an opportunity for the student to convert theoretical knowledge to different mental, psychological, and kinesthetic skills, which are essential for patient care (4,5,7,8,9). Evidence shows that the new graduates of nursing and midwifery, in spite of having a strong theoretical background, do not have the adequate skill and conversance in clinical environments and have problems in the process of problem solving (8). Although the fundamental part of nursing training is related to clinical training, unfortunately the results of research on nursing training has suggested that the quality of clinical training is not favorable and has some deficiencies (1).

Studies conducted in this regard indicate that factors including not valuing clinical training, insufficient lack of access to clinical trainers, lack of appropriate coordination between clinical training of the faculty and the facilities of performance in hospitals, the unsuitability of the time required for contact with each disease for complete practice of teachings in clinical environments, and lack of integration between theoretical and clinical training are among the major problems of clinical education. The statistics resulting from these studies have shown that 88.9% of nursing students believe that clinical nursing training has some problems. In spite of the attempts performed by the authorities of nursing education and healthcare officials for correcting the problems of clinical training, the reality is that with regard to training clinical nurses, nursing education has numerous shortcomings (1,8,10).

Evidently, the factors affecting the quality and quantity of clinical education are very diverse, such that it is not possible to always mention one certain factor or a group of specific factors for it. Accordingly, in the questionnaires designed for this purpose, this variety can be observed and the different studies conducted in this regard, given the investigated instrument, have examined different factors as the influential factors affecting the quality and quantity of clinical education. Therefore, considering the results of different studies which have mentioned different factors as the factors affecting the quality of clinical education (8), clinical education trainers are tangibly facing clinical problems and the students as the receivers of professional services of these trainers are the best

source for identification of the educational behavior of their teachers (11).

As fewer studies have been conducted to determine the viewpoints of students and trainers, and as the viewpoints and experiences of the head nurses of wards, which are tightly involved in implementing the clinical education of the students, have been understudied (12), this research has been conducted with the aim of determining the factors affecting effective clinical education in the viewpoint of students, trainers, and nursing officials of Abadan University of medical sciences. Hopefully, we can take effective steps by identifying these factors and presenting as well as employing the practical solutions for achieving educational objectives, training skilled individuals, and enhancing the quality of care services.

Method

This descriptive- cross-sectional study was conducted in the academic year 95-96 at Abadan faculty of medical sciences. The research population consisted of all students, trainers of clinical units and head nurses of the hospitals of Abadan faculty of medical sciences, who met the inclusion criteria. The inclusion criteria included: the admission criteria of nursing students was passing at least two semesters of clinical training experience. For nursing trainers, a bachelor's or Master's degree in nursing and having at least one year of clinical education experience was the inclusion criteria. The sampling was performed through available sampling and with in-person visit by the interviewer to the site of apprenticeship in the wards. The data collection instrument included two sections:

- 1) The questionnaire for demographic information containing data including age, gender, marital status, academic semester, the GPA, level of education (trainer/head nurse), background of educational experience (trainer/head nurse), clinical working background (trainer/head nurse).
- 2) The checklist of factors affecting clinical training across five general areas (comprehensive personal characteristics including 7 items, trainer's personal characteristics including 10 items, the conditions of clinical environment including 6 items, the educational objectives and planning including 12 items, and supervision and assessment including 7 items).

The questions of each area were scored based on a 5-option Likert scale as very low to very high with the scores of 1 to 5, where out of 42 items, the maximum and minimum acquirable scores were 210 and 42, respectively. The content validity of the checklist was provided by taking the comments of experts of medical education, which was used after final confirmation. The scientific reliability of the questionnaires was also estimated as around 0.94 using Cronbach alpha coefficient of test internal consistency. Eventually, for data analysis, in statistical analysis, descriptive statistics were used for acquiring primary information including the frequency, mean, minimum and maximum values, the number of data, and standard deviation. In the inferential statistics section, Kolmogorov-Smirnov test was used to get information about normality

of the variables, while analysis of variance, Kruskal-Wallis, independent-T, Mann-U-Whitney and Friedman tests were also used in SPSS 21, where the statistical significance level was considered as $p < 0.05$. Note that ethical principles were also followed in the research including receiving permission from the university's ethics committee (Code ir.abadanums.rec.1395.134). Also, giving discretion to all students in case they wanted to quit the research, ensuring the participants regarding confidentiality of information and the final report of the results in general, were taken into account.

Results

The total number of participants in this research was 156, broken down into the three groups of students, clinical trainers, and nursing officials. They included 118 students, 23 clinical trainers, and 15 nursing officials. The individual demographic information of all participants is presented in Tables 1 and 2.

Comparison of the dimensions of clinical education (comprehensive personal characteristics, personal characteristics of the clinical trainer, conditions of clinical environment, educational objectives and planning, as well as clinical supervision and assessment) from the viewpoint of nursing students, Nursing Trainers, and officials is provided in Table 3. Considering the normality or abnormality of the sample distribution, fit test (analysis of variance or Kruskal-Wallis tests) has been used.

Comparison of the order of dimensions of clinical training (comprehensive personal characteristics, personal characteristics of the clinical trainer, conditions of clinical environment, educational objectives and planning, as well as clinical supervision and assessment) separately from the viewpoint of nursing students, Nursing Trainers, and officials has been provided in Table 4. Considering the abnormality of normality of some of the dimensions, Friedman test or replicable sizes have been used.

Table 1: demographic data of all participants

		student		Instructor		Nursing staff	
		Number	Frequency percentage	Number	Frequency percentage	Number	Frequency percentage
Gender	Female	68	57/6	15	65/2	14	93/3
	male	50	42/4	8	34/8	1	6/7
Marital status	Single	104	88/9	7	31/8	3	20
	Married	13	11/1	15	68/2	12	80
Level of Education	Bachelor of Nursing	118	100	0	0/001	0	0
	Master of nursing	0	0	6	26/1	12	80
	Phd	0	0	17	73/9	3	20
Term	2	31	26/7	-	-	-	-
	4	36	31	-	-	-	-
	6	22	19	-	-	-	-
	7	3	2/6	-	-	-	-
	8	24	20/7	-	-	-	-

Table 2: Descriptive statistics of age, average, educational experience and clinical experience

		Number	Minimum	Maximum	Average	standard deviation
Student	Age	105	18	45	22/17	3/83
	Average	105	12	15	16/06	1/17
Nursing Trainers	Age	21	26	55	36/57	8/17
	Educational experience	23	36	324	102/65	76/44
	Clinical experience	20	10	144	56/2	39/48
Nursing staff	Age	14	35	48	41	4/35
	experience of educational experience	1	67	67	67	0/0000
	Clinical experience	15	96	342	186/66	70/81

Table 3. Comparison of the dimensions of clinical education from the viewpoint of students, Nursing Trainers and nursing staff

Variable	Classification	Average	standard deviation	Statistics	Degrees of freedom	p-value
personal characteristics**	student	3/60	0/63	15/61	2	0/0001
	Nursing Trainers	4/04	0/50			
	nursing staff	3/97	0/33			
personal characteristics of the clinical trainer *	student	3/51	0/68	6/17	2	0/003
	Nursing Trainers	3/96	0/39		150	
	nursing staff	3/85	0/30		152	
conditions of clinical environment**	student	3/27	0/82	21/27	2	0/0001
	Nursing Trainers	3/97	0/49			
	nursing staff	3/75	0/40			
educational objectives and planning*	student	3/36	0/62	13/09	2	0/0001
	Nursing Trainers	3/98	0/39		153	
	nursing staff	3/78	0/39		155	
clinical supervision and assessment*	student	3/22	0/70	17/77	2	0/0001
	Nursing Trainers	3/98	0/39		153	
	nursing staff	3/84	0/45		155	

* All four groups are normal using the ANOVA test
 ** At least one group is not normal using the Kruskal-Wallis test

Discussion

Clinical training has several components. As this research also shows, the trainers and practitioners of clinical training as influential people and students as affective individuals as well as the main officials of the future of healthcare have attached great importance to the components involved in education (personal characteristics of the learner, trainer, environment, planning, and assessment). Comparison of the order of dimensions of clinical training (personal characteristics of the learner, trainer, environment of clinical training, educational objectives and planning, and clinical supervision and assessment) in the viewpoint of nursing students, tutors, and officials indicates that comprehensive personal characteristics and clinical trainers are more effective than other areas in clinical training. Further examination reveals that the opinions of nursing trainers and officials have no significant difference with each other and are the same, but the opinion of students lies at a lower level in comparison with the ideas of nursing trainers and officials. This has been emphasized in studies including Taheri et al (13), Zahraei et al (14), and Maslarpak et al (15). However, in the study by Delaram, it found a lower priority, and according to him, the reason is the desirable conditions of clinical trainers in his research population (5). According to the students, seven items of the comprehensive personal characteristics have a significant difference with each other (p=0.0001), out of which cases such as “interest in clinical training”, “internal motivation”, “being respected”, and “talent in clinical training” were considered more important than others. As interest is one of these personal characteristics, if the students continue the selected major and their favorite academic activities, they will definitely achieve more success. Further, interest should be developed in the clinical environment for the

student, through which one can help them to progress. Although nursing tutors and officials have considered all items related to the area of clinical environment conditions to be of the same importance, students have chosen “development of the self-confidence of the student in the clinical environment” as the first priority with a significance level of 0.020. Academic atmosphere coupled with mutual relationship and respect results in diminished stress and improved self-confidence in students. This both facilitates the learning process and helps them to become interested in the clinical environment and working with patients, which in turn can lead to effective care for the patients. Nasiri et al also reported that according to students, student self-confidence is the most effective factor in learning nursing clinical skills (16). Moreover, considering the importance of clinical tutors as the facilitators of education and empowerment of learners in effective and efficient learning as well as development of an environment for experiencing clinical skills of students (17-19), employing a set of personal characteristics such as complete support by the trainer for students in the clinical environment, good treatment of students, sufficient patience, ability to reduce the stress of students, interest in clinical work, sufficient teaching background (at least 5 years), background of working in clinical environments, sufficient skill in performing clinical jobs and having initiative for promoting training are recommended for clinical tutors.

Further investigation of the questions of the area of clinical supervision and evaluation indicates that from the viewpoint of nursing trainers and officials, they have no significant difference. However, according to students, the question “the knowledge of students about the manner of clinical evaluation at the beginning of the apprenticeship course” has a significant difference with the six other questions, and lies at the top, where the other six questions with a

Table 4: Comparison of the dimensions of clinical training (comprehensive personal characteristics, personal characteristics of the clinical trainer, conditions of clinical environment, educational objectives and planning, as well as clinical supervision and assessment) from the viewpoint of nursing students, Nursing Trainers, and nursing staff.

Variable	Classification	Average	standard deviation	Statistics	Degrees of freedom	p-value
* student	personal characteristics	3/60	0/63			
	personal characteristics of the clinical trainer	3/51	0/68			
	conditions of clinical environment	3/27	0/82	30/91	4	0/0001
	educational objectives and planning	3/36	0/62			
	clinical supervision and assessment	3/22	0/70			
* Nursing Trainers	personal characteristics of the clinical trainer	4/04	0/50			
	conditions of clinical environment	3/96	0/39			
	educational objectives and planning	3/97	0/49	2/51	4	0/64
	clinical supervision and assessment	3/98	0/39			
	personal characteristics of the clinical trainer	3/98	0/39			
nursing staff**	personal characteristics of the clinical trainer	3/97	0/33			
	conditions of clinical environment	3/85	0/30			
	educational objectives and planning	3/75	0/40	0/84	4	0/50
	clinical supervision and assessment	3/78	0/39			
	personal characteristics of the clinical trainer	3/84	0/45			

* All five dimensions are normal and use repeatable test sizes

** At least one dimension is not normal and use Friedman

significance level of 0.113 have no significant difference with each other. In the study by Boraz Pardanani (8) and Veton and Gonda (20) also the students were not satisfied with the status of clinical assessment and regarded it as devoid of objectivity. The assessment process can be considered a determinant of learning level and the fundamental pillar for future planning. Further, considering its importance in the extent of achievement to the expected objectives and skills, and feedback for comprehensive recognition of their strong and weak points, modification and revision of the clinical assessment methods seem to be essential (21).

In addition, the results obtained from Pearson correlation test indicate that the clinical background of the tutors has a correlation of 0.473 with the persona characteristics of clinical trainers, such that the longer the clinical background, the greater the incidence of personal characteristics in the performance of trainers will be.

Considering the importance of each of the five dimensions, the opinion of students has a lower level than that of nursing tutors and officials. However, the unique difference of these opinions is negligible and it can be stated that across the three groups, nursing students, tutors, and officials have

evaluated these factors with a huge impact on clinical training. Indeed, by considering and caring for the personal characteristics of learners, employing experienced and committed clinical tutors, provision of a suitable clinical environment in terms of equipment and employees, precise and targeted planning, systematic clinical evaluation and presenting its feedback to all educational stakeholders, ranging from managers and planners of clinical training is a step towards effectiveness.

Conclusion

Based on the results of this research, the two areas of individual characteristics of the clinical trainer and comprehensive have more effect than other areas on the clinical training of students, where the level of impact of the two mentioned areas had no considerable difference in the viewpoint of the three groups. Thus, in this regard, paying attention to the trainers and improving their personal characteristics, employing competent trainers, systematic curriculum development and planning, providing a suitable clinical environment, presentation of solutions for enhancing clinical learning in students, and timely

reflection of problems to educational officials can facilitate and improve the process of effective clinical training. Note that this research had also some limitations, which limits generalizability of the findings. For example, use of self-reporting method in data collection can be limiting as the contributing units may not want to reflect their real opinion. In this regard, attempts were made to control this issue as much as possible by giving sufficient explanation and caring for confidentiality.

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