

The Relationship between Clinical Competence and Clinical Self-efficacy among Nursing and Midwifery Students

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Abstract

Introduction

Self-efficacy in clinical performance had an important role in applying competencies; also competencies and self-efficacy in clinical performance influenced to quality care of nursing and midwifery students. So the present study aimed to define the relationship between clinical competencies and clinical self-efficacy among nursing and midwifery students.

Materials and Methods

This is a cross-sectional study conducted on 150 of nursing and midwifery students in Isfahan University of Medical Science, selected through two stage sampling in 2014. The participant completed questionnaires about personal/ educational characteristics and nursing competencies questionnaire (18 items) and clinical self-efficacy scale (37 items). The data were analyzed by, Pearson statistical test, t-test, variance analysis through SPSS version16.

Results

The results showed that 50% (n=75) and 37.4% (n=56) of nursing and midwifery students had good clinical competence and clinical Self-Efficacy, respectively. Also the mean competencies and self-efficacy in clinical performance scores were 35.05 ± 1.2 and 76.03 ± 0.4 respectively. Pearson correlation coefficient showed that there was a positive linear correlation between the score of clinical competence and clinical self-efficacy ($P < 0.05$, $r = 0.73$).

Conclusion

The results reveal that self-efficacy is a significant predictor of a student's clinical performance therefore increasing clinical competence related to high clinical Self-efficacy.

Key Words: Clinical competence, Clinical performance, Self-efficacy, Students.

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Introduction

Clinical competence is defined as the ability to solve complex problems using a combination of knowledge, attitude and practical skills and its goal is to assess the practical capabilities of medical students in various fields in order to meet the needs of public service (1). The undesirable practical skills of medical students may be due this reason that in most performance-based tests, basic and theoretical skills are ignored and not assessed and their success on tests greatly depends on subjective memories and conceptions and in performance-based tests at the end of the course, a part of the score is for the diagnosis and treatment and consequences of the treatment (2, 3).

In fact, clinical competence is the ultimate goal of nursing education and includes the ability to apply professional knowledge and skills, communication and interpersonal skills, and advanced problem solving and decision making skills (4). According to the above-mentioned, competence in nursing and midwifery will be considered as the ability to perform nursing duties, and the ability to effectively integrate the cognitive, affective and psychomotor skills while performing patient care (5). Assessment of clinical competence, particularly in identifying areas that need improvement as well as determining the educational needs of nurses, is of great importance. So that is considered as the most important responsibility of managers in clinical settings (6). In our country, recently, due to the increased community awareness and expectations about receiving high-quality services, paying attention to the clinical competence of nurses and midwives has become more important (7). According to the Australian Nursing Association, nursing students should have sufficient self-awareness about their professional qualifications when graduating and also their attitudes should be positive toward

the competencies in order to be effective in their clinical performance (8). In this regard, Parsa Yekta conducted a study to determine the clinical competence of 91 nursing students. He showed that most studied students had moderate clinical competence (8). Whereas, Hakimzadeh's study revealed that generally students have rated their clinical competence slightly above average (3). About acquisition of clinical competence in nursing and midwifery students, understanding the influencing factors in its development is important (9). Furthermore, there are appropriate solutions to predict students' clinical skills that one of which is paying attention to students' self-efficacy beliefs for clinical skills evaluation. In fact, it seems that obtaining multilateral information from intelligence capabilities and competencies of students can enrich the clinical evaluation. One of the most important information is the student's personal belief and understanding his own "effectiveness". This variable can be a reliable predictor of student's clinical competence and skills (10). Accordingly, students' evaluation of their own effectiveness is an appropriate guideline to predict their clinical skills, because there is a significant positive relationship between the self-efficacy and performance of the students (11, 12). In fact, the self-efficacy is one of the contributing factors that not only can affect the performance and clinical competence of people working in the healthcare field, but also can affect medical and paramedical students (13). Self-efficacy also mediates between the knowledge and behavior and is associated with professional competence (14). Rice's study (2013) showed that there was no correlation between clinical competence and self-clinical of students (15); whereas, the studies by Hasani and the Haqqani (2013) and Yu (2006) showed that there was a significant correlation between these two variables (13, 16, 17).

Given the above, obtaining clinical competency is one of the important goals of medical education and its evaluation is also of utmost importance. Today, efforts are made to adopt new approaches to assess and evaluate the capabilities of students of Medical Sciences in order to promote the quality of this part of educational process (5, 6).

In the present study, by introducing the concept of clinical self-efficacy in the field of clinical competency evaluation, appropriate complementary to assess and judge on medical students' clinical capability is presented (8, 18). Given that more than 80% of direct patient care is carried out by nurses and midwives (11, 19) and also according to the few studies that have been conducted regarding the objective of the study and the contradictory results (13, 15-17), this study aimed to determine the relationship between clinical self-efficacy and clinical competence in nursing and midwifery students in Isfahan city, the center of Iran, in 2014.

Materials and Methods

At a cross-sectional study, stratified sampling method was applied for this study. Then, in proportional to the number of senior students in each field and based on the number of students, 100 nursing students and 50 midwifery students were randomly selected. The researcher made questionnaire consists of three parts: the first part includes reviewing the educational demographic characteristics (age, gender, education level, field of Study, marital status); the second part of the questionnaire is about "clinical self-efficacy" which contains 37 items based on a 4 point Likert scale rated from quite always (0) to never (3) (for example, I am able to gather the necessary information through physical examination, I am able to gather the necessary information by taking

a medical history, I am able to establish a relation between separated information of the patient). This questionnaire has 5 separate areas including examining the patient, nursing diagnosis, planning care program, implementing care program, and evaluation of care program. The overall score of this questionnaire is from 0 to 102 (poor 0-37, medium 38-74, and good 75-102). This questionnaire has been used in studies in Iran, including Cheraqi and the Haqqani (2013) and its content validity and reliability (Cronbach's alpha 0.92) has been approved by the Haqqani's study (2013) (14, 16). The third part of the questionnaire is a shortened questionnaire of "clinical competence" which consists of 18 items (for example: I try to provide standard care, I have a unique approach in planning patient care, when the patient asks a question I show my logical thoughts and behaviors), and is based on a 4 point Likert scale rated from 1 (completely true) to 4 (wrong).

To prove the face and content validity, the third part of the questionnaire was translated and the necessary changes was made, then it was delivered to five experts in the field along with the English version to be revised. After proposed amendments of the experts were applied, the tools were given to three professors for final reviewing and approval. For determining the reliability of both questionnaires, test-retest method was used (on ten students at the beginning of the study), and it was approved with a correlation coefficient of 0.96.

To do the study, the researcher referred to the place of students' apprenticeship in each of the disciplines of nursing and midwifery and after explaining the purpose of the study and how to complete the questionnaire, the researcher attempted to do sampling and carry out the research. After obtaining informed consent form students, a three-part questionnaire that included demographic/academic

characteristics, clinical self-efficacy scale and clinical skills questionnaire was completed by participants. The data were analyzed by SPSS version 16, also $P < 0.05$ was considered as significant level.

Results

A total of 150 students participating, 92 subjects (61.4%) were women and 58 subjects (38.6%). Subjects' mean age was

23 ± 1.4 years. Also, 88 subjects (59%) were single and 62 subjects (41%) were married.

Frequency distribution of subjects' based on clinical competence and clinical self-efficacy level in (Table.1) and dimensions of clinical self-efficacy are shown in (Table.2).

Table 1: Frequency distribution of subjects' based on clinical competence and clinical self-efficacy levels

Variables	N	%
Clinical competence		
Well (63-72)	75	50.5
Moderate (51-62)	72	48.4
Poor (34-50)	3	1.1
Total	150	100
Clinical self-efficacy		
Well (92-111)	56	37.4
Moderate (71-91)	80	53.3
Poor (37-90)	14	9.3
Total	150	100

Table 2: Frequency distribution of subjects' based on 5 dimension of clinical self-efficacy

5 Dimension of clinical self-efficacy	SD ± Mean
Patient Survey	4.1±17.99
Nursing Diagnosis	3.4±17.25
Care Program Planning	4.4±17.1
Care Program Performing	3.4±13.97
Care Program Evaluating	3.7±14.82

Pearson correlation index showed a positive correlation between scores of clinical competence and clinical self-efficacy in a way that an increase in score of clinical competence increases score of clinical self-efficacy ($P=0.001$, $r=0.73$). Based on Pearson correlation index (Table.3) showed that there was a positive

correlation between 5 dimension of clinical self-efficacy and clinical competence.

In order to control confounding factors, all quantitative variables were entered into linear regression model through concurrent entrance method (Table 4).

Table 3: Correlation between 5 dimension of clinical self-efficacy and clinical competence

5 Dimension of clinical self-efficacy	P value	Pearson's correlation coefficient
Patient Survey	0.006	0.45
Nursing Diagnosis	0.004	0.62
Care Program Planning	0.023	0.28
Care Program Performing	0.012	0.81
Care Program Evaluating	0.033	0.42

Table 4: Linear regression between predictor variables and dependent variables

Coefficient ^a				
Predictor variables	Standardized Coefficients		Unstandardized Coefficients	P value
	Beta	Std. Error	Beta	
Clinical competence score	.091	.031	.133	.011
Age	.089	.066	.031	.076
Courses	.224	.086	.138	.609

a Dependent variable: Total clinical self-efficacy SCORE

Discussion

The main results of the present study showed that there was a significant positive correlation ($r = 0.73$) between total score of clinical competence of students and clinical efficacy as well as its five areas, so that with an increase in clinical self-efficacy, students had more clinical competence. In line with the results of present study, the findings of the study by Hasani in Tehran showed that nursing students during the field training believe that self-efficacy in clinical performance is synonymous with obtaining clinical competency and providing proper care for the patient. These two are based on knowledge and experience within the framework of evaluating the patients, planning, implementation, and evaluating nursing care (13).

In another study it is also stated that, according to the participants, self-efficacy along with clinical competence give the nurses a sense of self-sufficient. Sense of self-sufficient, in turn, makes them creative in helping the patients and the nurses can take more efficient decisions (20). The study by Rice showed that there was no correlation between clinical self-efficacy and the nursing students' clinical competencies (15). Different educational environments and also different environments of educational hospitals and also differences in the culture of each society and even each city, and the difference in the number of passed semesters (final-year students in the present study versus students in their sixth semester and higher in Rice's study) are some of the reasons for the difference and inconsistency of the studies. One limitation

of this study is that evaluating clinical competence by using self-assessment method can reduce the accuracy and objectivity of this evaluation method because the subjects may give themselves unrealistic scores, that is why this method of assessment of clinical competence should be evaluated as a part of an approach, not all of it. Although the researcher is aware of these limitations, he believes that trusting in nursing and midwifery students can motivate them to think and take decisions about how to provide care; furthermore, it enables them to fulfill their responsibilities in clinical performance. However, given the foregoing discussion, it can be suggested that for future studies researchers can use other methods to assess the clinical competence, such as assessment of students by trainers and officials of the wards with direct observation and evaluation of care outcomes. The other limitation of this study that should be noted is that the students did not hope that the results of the study would be used in decision making related to their performance in clinical settings; therefore, they did not show great interest in completing the questionnaires which, in turn, may affect the accuracy of the findings. Due to cross-sectional nature of evaluation in this study, the findings are less generalizable to the decisive policies. Therefore, it is recommended that a continuous and institutionalized evaluation be done annually, so as to help for the recovery of the course.

Conclusion

The results of this study support the hypothesis that there is a correlation between the “clinical self-efficacy” and “clinical competence” of senior students of nursing and midwifery. Therefore, clinical self-efficacy will result in a more accurate assessment of clinical competence of nursing and midwifery students. The

results of present study can be used for educational planning of midwifery and nursing, implementing new training methods, and clinical evaluation by the heads of departments and as a result they pay more attentions to the students’ performance in clinical settings. Furthermore, the results of this study can be used by nursing students for self-assessment of clinical performance. Feedback related to the results of the study will help the students to gain self-awareness and self-confidence about their professional capabilities. Also, based on their level of self-efficacy, they can assess their educational needs, develop strategies for clinical learning, and monitor and evaluate their own learning.

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Conflict of Interest: None.

References

1. Wu EH, Elnicki DM, Alper EJ, Bost JE, Corbett EC Jr, Fagan MJ, et al. Procedural and interpretive skills of medical students: experiences and attitudes of thirdyear students. *Academic Medicine* 2006;81(10):48-51.
2. Jacobs JC, Denessen E, Postma CT. The structure of medical competence and results of an OSCE. *The Netherlands journal of Medicine* 2004; 62(10):397-403
3. Ghanadi K, Anbari K, Zendedel A. Clinical Competency. *Strides Dev Med Educ* 2013; 10 (3) : 398-400.
4. Hakimzadeh R, Karamdost N, Memarian R, Ghodrati A, Mirmosavi J. Assessing nursing students’ clinical competency: self-assessment. *Nursing Vision* 2012; 1(1): 20-5.

5. Reid F. Baccalaureate education and professional practice. *Nurse Outlook* 2000; 15(3):50-9.
6. Bahreini M, Moattari M, Kaveh M, Ahmadi F. A Comparison of Nurses' Clinical Competences in Two Hospitals Affiliated to Shiraz and Boushehr Universities of Medical Sciences: A Self-Assessment. *Iranian Journal of Medical Education* 2010; 10(2): 101-9.
7. Bagheri Nesami M, Rafiee F, Parvizi S, Esmaeili R. Concept analysis of competency in nursing: Qualitative research and delivery of a Hybrid model. *J mazandaran Univ Med Sci* 2007; 18(67):35-42.
8. Parsa-Yekta Z, Ramezani Badr F, Khaton A. Nursing students' viewpoints about their clinical competencies and its achievement level. *Iranian Journal of Nursing Research* 2007(3):7-14.
9. Memarian R, Salsali M, Vanaki Z, Ahmadi F, Hajizadeh E. Factors Affecting the Process of Obtaining Clinical Competency. *ZUMS Journal* 2006; 14 (56) :40-9.
10. Hassankhani H, Mohajjel Aghdam A, Rahmani A, Mohammadpoorfard Z. Assessing Self-efficacy in Clinical Competence Among Nursing Students at Tabriz University of Medical Sciences. *Zeynab Jundishapur Sci Med J* 2015;6(2):108-14.
11. Chehrzad MM, Shafiei Pour SZ, Mirzaei M, Kazem Nejad E. Comparison between two methods: Objective Structured Clinical Evaluation (OSCE) and traditional on nursing students' satisfaction. *Journal of Medical Faculty Guilan of Medical Science* 2004; 13(50):8-13.
12. Mohammadi F, Hosseini MA. Rehabilitation Sciences Students' Perception from Clinical Self-Efficacy Compared to Evaluation by Clinical Teachers. *Iranian Journal of Medical Education* 2010;10(2):155-63.
13. Hassani P, Cheraghi F, Yaghmaei F. Self-efficacy and Self-regulated Learning in Clinical Performance of Nursing Students: A Qualitative Research. *Iranian Journal of Medical Education* 2008; 8(1): 33-41.
14. Cheraghi F, Hassani P, Yaghmaei F, Alavi-Majed H. Developing a valid and reliable self-efficacy in clinical performance scale. *International Council of Nurses* 2009;56(2):214-21.
15. Rice EW. The relationship between emotional intelligence, self-efficacy, and clinical performance in associate degree Nursing students (Dissertation). Northeastern United States: Capella University; 2013.
16. Haghani F, Asgari F, Zare S, Mahjoub Mh. Correlation between self-efficacy and clinical performance of the internship nursing students 2013; 5(1):23-31.
17. Yoo, MS, Son, YJ, Yoo, IY, et al. Relationship between Self-Efficacy and Clinical Skill Competence of Nursing Students. *Journal of Korean Academy of Fundamentals of Nursing* 2006 13(3):343-50.
18. Ghourchaie A, Hadjabadi MR. Medical students' viewpoints of their goal achievement in ENT clerkship period in Birjand University of Medical Sciences. *The Journal of Qazvin University of Medical Sciences & Health Services* 2004; 30: 19-23.
19. Kordi M, Mohamadirizi S, Shakeri MT. The relationship between occupational stress and dysmenorrhea in midwives employed at public and private hospitals and health care centers in Iran (Mashhad) in the years 2010 and 2011. *Iranian Journal of Nursing and Midwifery Research* 2013; 18(4): 316-22.
20. Hajbaghery MA, Salsali M, Ahmadi F. The factors facilitating effective clinical decision-making in nursing: a qualitative study. *BMC Nurs* 2004;3(1):2.