

Investigating the Effect of Two Evidence-based and Routine-based Learning Techniques on the Clinical Competency of Cardio-pulmonary Resuscitation on Emergency Ward Nurses in Imam Khomeini Dehdasht Hospital in 2017

Moslem MoslemiRad¹, Marziyeh Asadi Zaker^{2*}, Nasrin Elahi², Mohammad Hossein Haghhighizadeh³

¹Ahvaz Jundishapur University of Medical Sciences, Ahwaz, Iran

²School of Nursing and Midwifery, Ahvaz Jundishapur University of Medical Sciences, Ahwaz, Iran

³Statistics Department, School of Health, Ahvaz Jundishapur University of Medical Sciences, Ahwaz, Iran

ABSTRACT

Introduction and Objective: Nursing education has a mission to prepare graduates with the ability to identify the needs of patients in a changing community and clinic, and provide the best possible care in the light of the best scientific evidence. Today, evidence-based education has also been considered in the field of nursing education with the aim of using the serious, explicit and rational use of the best evidence for decision making. Evidence-based care is a problem-solving approach to health problems that derives from the best evidence based on well-designed studies. This practice applies to scientific fields, various medical and nursing procedures, including cardiopulmonary resuscitation (CPR). Given that nurses are the first to come to the patient at the time of cardiopulmonary arrest, their knowledge and skills in implementing the most up-to-date and most effective cardiopulmonary restraint protocols can help to increase the success rate and reduce the time of CPR and thus reduce the mortality rate and its complications have an effective role. Therefore, this study was conducted with the aim of determining the Effect of Two Evidence-Based and Routine-Based Learning Techniques on the Clinical Competency of Cardio-pulmonary resuscitation on Emergency Ward Nurses in Imam Khomeini Dehdasht Hospital in 2017.

Methods: This is a semi-experimental interventional study that was performed on 44 nurses working in Emergency wards of Imam Khomeini hospital in Dehdasht hospital in 2017. After selecting qualified individuals, census and random allocation were divided into two groups, which were divided into two groups of 22, the first group was influenced by evidence-based education and the second group was influenced by routine training. In the first group, evidence-based education included: two research workshops for 4 sessions in two consecutive weeks (a total of 8 hours), followed by two evidence-based care workshops for 4 sessions over a two-week consecutive (total of 8 hours) The content of the introduction to evidence-based nursing, how to set the clinical question, how to use information sources, and how to critique the articles. Following the implementation of the evidence-based care workshop on CPR and in line with the latest changes to the 2015 CPR guidelines, the nurses learned in practice, with evidence-based care, and appropriate for CPR. During the two months of each week for an hour (a total of 8 sessions per hour), the problem was addressed and the learning of these people was followed up. Before and two months after the intervention, their clinical competence was assessed using a researcher-made clinical checklist.

Results: The findings of this study showed that the two groups did not have a statistically significant difference in terms of age, sex, and work experience. In other words, the two groups were homogeneous. Also, the clinical competence of the evidence-based learning group at the onset of the principles of CPR, In the implementation of artificial airway, in implementing the principles of CPR start and end, in advanced pulmonary CPR, as well as in the implementation of the principles of the onset and end of CPCR more than the routine workshop ($p < 0.05$).

Conclusion: Evidence-based nursing education can be effective on the skills of the nursing process. Therefore, learning this technique and its use in clinical settings is important because nursing students need reliable information on diagnosis, treatment, prognosis, prevention, examination and recognition, planning, implementation and evaluation every day.

Key words: CPR, Evidence-based nursing, Nursing education, Clinical competence

HOW TO CITE THIS ARTICLE: Moslem MoslemiRad, Marziyeh Asadi Zaker*, Nasrin Elahi, Mohammad Hossein Haghhighizadeh, Investigating the effect of two evidence-based and routine-based learning techniques on the clinical competency of cardio-pulmonary resuscitation on emergency ward nurses in Imam Khomeini Dehdasht hospital in 2017, J Res Med Dent Sci, 2019, 7(1): 52-60

Corresponding author: Marziyeh Asadi Zaker
e-mail ✉: mostafamadmoli10@gmail.com

Received: 22/08/2018

Accepted: 03/01/2019

INTRODUCTION

Nursing education has a mission to prepare graduates with the ability to identify the needs of patients in a changing community and clinic, and to provide the best care in the light of the best scientific evidence [1]. Today, most universities in the world are looking for educational methods that can expand and improve nursing clinical decision-making capacities [2]. Today, evidence-based education has been considered in nursing education with the aim of using the serious, explicit and rational use of the best available evidence for decision making. Evidence-based care is a problem-solving approach to health problems that derives from the best evidence based on well-designed studies [3,4]. Today, this method is considered as a golden standard for the quality of health services [5]. Evidence-based learning works on two main levels. First is the use of evidence from research and studies on education and its related subjects. The second level of proof of validity and reasonable evidence is where the available evidence is questionable, indeterminate, or weak [6].

Nurses have found that active and work-based learning based on research results in a significant correlation between the ultimate goal of nursing, education and clinical care [1]. This method has been used in various scientific and medical procedures and nursing procedures, including cardiac rehabilitation pulmonary application. If resuscitation is quick, it can save lives in 40% to 60% of cases. Given that nurses are the first to come to the patient at the time of cardiopulmonary arrest, their knowledge and skills in implementing the most up-to-date and most effective cardiopulmonary restraint protocols can help to increase the success rate and reduce the time of CPR and thus reduce the mortality rate and complications have an effective role [7]. The researchers' experiences have shown that nurses have not only enough information on the subject of CPR not only in the performance but also in the consciousness field [8]. In 2013, Soltany et al. showed that conducting an evidence-based workshop could lead to improved levels of knowledge management skills and behavioral abilities for decision making [9]. Straka et al., in a study with the aim of determining the impact of evidence-based education and the creation of an evidence-based culture and nursing research in a pediatric hospital in St. Petersburg, Russia showed that education-based research had a positive impact on the creativity and performance of nursing personnel, and nursing caregivers also corrected nursing barriers Evidence-based roles play an important role in building evidence-based culture [10]. In a study by Habibzadeh et al. aimed at determining the effect of evidence-based nursing education on nursing student's skills in nursing students, the study showed that the skill of implementing nursing process in the intervention group students based on Evidence-based nursing skills were significantly better than those in the control group ($p < 0.001$). Comparing the

two groups, the difference in the mean scores of clinical practice in the two groups after the intervention was statistically significant ($p < 0.001$) [11]. Considering that evidence-based care has been studied in several studies and has had positive effects, and given the importance of this issue, especially in the field of CPR, and also because the review of the literature suggests a study in the field of education based on the need for CPR to address the clinical competence of nurses and the importance of identifying barriers and teaching the skills needed to present this approach to improving clinical competence in educational centers, this study aimed to determine the effect of evidence-based education on CPR on clinical competence of nurses in Emergency department was done.

MATERIALS AND METHODS

This is a clinical trial study aimed at comparing the effect of two evidence-based learning methods and a routine cardio-pulmonary rehabilitation workshop on the clinical competence of emergency nurses in emergency departments of Dehdasht Imam Khomeini Hospital in 2017. The research population consisted of nurses working in Emergency departments of Imam Khomeini Hospital in Dehdasht in 2017. The samples were selected by census and according to entry and exit criteria. The samples were randomly assigned into two groups based on evidence-based training and routine workshops. The inclusion criteria included at least 2 years of work experience, non-completion of an educational course related to evidence-based workshops or the like, participation in The CPR team was willing to participate in the study and signing the informed written consent of the company in the study. Also, the exit criteria included: non-participation in one stage of the study, non-attendance at the evidence-based training workshops, more than one meeting, non-participation in CPR team, transfer to another department or hospital during the study. The data collection tool comprised demographic information and a researcher-made clinical competence assessment. The demographic information questionnaire included information on age, gender, history of the year, monthly income, type of employment and type of shift (outright, constant), and a checklist of clinical performance that has been built according to the routine and 2015 guide lines in People performance scoring were used. Demographic questionnaire and nurses 'clinical competence questionnaire and a list of clinical practice lists were designed by researcher using valid sources. For assessing their validity, face validity and content validity were used and their reliability was confirmed by correlation of two researchers' simultaneous observation method. After selecting qualified individuals, census and random allocation were divided into two groups. In the first group, evidence-based education included two research workshops for 4 sessions in two consecutive weeks (totaling 8 hours) followed by two evidence-based care workshops for 4 sessions over a two-week period (totaling 8 hours) with The content of the introduction to evidence-based nursing, how to set the clinical question, how to use information sources, and how to critique the

articles. Following the implementation of the evidence-based care workshop on CPR and the latest changes based on Guideline CPR 2015, Nurses Practically Familiarized with Evidence-Based Care and its Steps to Correct CPR. During the two months of each week for an hour (a total of 8 sessions per hour), we were able to fix the problems and track the learning of these people. Before and two months after the intervention, their clinical competence was assessed using a researcher-made clinical checklist. For the first group, evidence-based education was revived, and for the second group only CPR training was given in a routine workshop and the second group did not receive any kind of training on evidence-based learning. Finally, for comparison of quantitative variables in two groups, for independent variables, independent T test and for non-standard or qualitative variables, the Mann-Whitney test and for nominal qualitative variables from square K were used,

and before and after the t-paired test The unusual form of the Wilcoxon test was used, and in the presence of the intervener, we used the covariance analysis, that was done with the SPSS Version 23.

RESULTS

According to the results of the statistical distribution of gender, results showed that 45.5% of women and 54.5% were male in laboratory routine group, and in the evidence-based group 54.5% were female and 45.5% were male (Table 1). The results showed that the average age of nurses was 32.6 years and the work experience of nurses was 8.6 years. (Table 2). The results showed that 38.6% (17 persons) were younger than 30 years of age, 25% (11 persons) aged 30-35 years, 20.5% (9 people) aged 36-40 years and 15.9% (7 People aged over 40 (Table 3).

Table 1: Distribution of the sample by gender

Group	Sex	Frequency	Frequency Percentage (%)	Significant Level
Workshop routine	male	12	54.5	0.54
	female	10	45.5	
Evidence-based	male	10	45.5	
	female	12	54.5	

Table 2: The mean age and work experience of the statistical sample

Variable	The average	Standard deviation	Significant Level
Age	32.6	6.5	0.825
Work experience	8.6	6.3	0.5.5

Table 3: Frequency and percentage of frequency by age

Age of statistical sample	Frequency	Frequency Percentage (%)
Under 30 years old	17	38.6
35-30 years	11	25
40-36 years old	9	20.5
Over 40 years old	7	15.9

Also, in relation to the frequency distribution of individuals in terms of educational qualifications, the results showed that 84.1% (37 persons) had a bachelor's

degree, 9.1% (4 students) and 6.8% (3 students) had master's degree (Table 4).

Table 4: Frequency and percentage of frequency in terms of educational qualifications

Age of statistical sample	Frequency	Frequency Percentage (%)
Associate Degree	4	9/1
BA	37	84/1
MS	3	6/8

In terms of people according to their work record, the results showed that 65.9% (29) had a history of under 10

years, 16.9% (7) had a history of 15-11 years, 13.6% (6) 1620-years old and 4.5% (2 people) had a work experience of over 20 years (Table 5).

Table 5: Frequency and percentage of frequency in terms of work history

Sample statistical record	Frequency	Frequency Percentage (%)
Under 10 years old	29	65/9
15-11 years old	7	16/9
20-16 years old	6	13/6
Over 20 years old	2	4/5

To verify the normality of the data, the Kolmogorov-Smirnov test was used which showed that in pretest advanced cardiovascular resuscitation, CPR evidence-based pretest, CPR post-test routine workshop and CPR

post-test based on evidence of data were normal ($p > 0.05$). In the rest of the cases, the data were not normal ($p < 0.05$) and nonparametric statistics were used for the analysis (Table 6).

Table 6: Kolmogorov-Smirnov test for data normalization

Variable name	Z	Significant Level
Pre-test start	Workshop routine	0/196
	Evidence-based	0/292
Pre-test base for pulmonary rehabilitation	Workshop routine	0/193
	Evidence-based	0/224
CPR pre-test	Workshop routine	0/158
	Evidence-based	0/197
Post-test pulmonary resuscitation pre test	Workshop routine	0/161
	Evidence-based	0/163
Pre-test CPR	Workshop routine	0/110
	Evidence-based	0/170
Start the post-test	Workshop routine	0/277
	Evidence-based	0/496
CPR	Workshop routine	0/185
	Evidence-based	0/413
Post-test CPR	Workshop routine	0/158
	Evidence-based	0/392
Advanced CPR	Workshop routine	0/197
	Evidence-based	0/132
CPCR Post Test	Evidence-based	0/2
Pre-test start	Workshop routine	0/323

The comparative study of the effect of two evidence-based learning methods and routine CPR on clinical competency of nurses by age showed that the average in the routine group was 32.4 and in the evidence-based

group it was 32.4. Independent t-test showed that two types of evidence-based education and routine CPR were not different from nurses' clinical competence ($p > 0.05$) (Table 7).

Table 7: Mean and standard deviation of two evidence-based learning methods and routine CPR on the clinical competence of nurses by age

Group	The average	Standard deviation	Significant Level
Workshop routine	32/4	6/44	0/825
Evidence-based	32/4	6/69	

A comparative study on the effect of two evidence-based learning methods and routine cardio-pulmonary

rehabilitation on nurses' clinical competence based on their work record showed that the mean in the routine

group was 8.6 and in the evidence-based group was 8.5. Independent t-test showed that two evidence-based

learning methods and routine CPR were not different from clinical history of nurses ($p > 0.05$) (Table 8).

Table 8: Mean and standard deviation of two evidence-based learning methods and routine CPR on the clinical competence of nurses based on work experience

Group	The average	Standard deviation	Significant Level
Workshop routine	8/6	1/24	0/505
Evidence-based	8/5	1/46	

The results of comparing the clinical competency of the evidence-based learning group at the onset of the principles of CPR showed that in the routine workshop and evidence-based group, mean in the pre-test was 1.8 and 1.7, respectively. In the case group routine workshop, based on evidence, the mean in post-test was 2.4 and 3.8. Independent t-test showed that there was a significant difference in the post-test routine and evidence-based average ($p \leq 0.05$) (Table 9).

The results of t-test showed that there was no significant difference in pre-test and post-test routine in the pre-test and post-test groups. There was a significant difference between the pre-test and post-test groups in the pre-test and post-test ($p \leq 0.05$), which indicates that clinical competence of Evidence-based learning nurses are more likely to start with the principles of CPR than the routine workshop group (Table 10).

Table 9: Comparison of two evidence-based and routine learning methods on clinical competence of nurses in initiating CPR with independent t-test

Variable name	The average	Standard deviation	Significant Level
Pre-test start	Workshop routine	1/8	0/37
	Evidence-based	1/7	
Post-test start	Workshop routine	2/4	0/00
	Evidence-based	3/8	

Table 10: Comparison of two evidence-based and routine learning methods based on clinical competence of nurses in the initiation of CPR using t-correlated

Variable name	The average	Standard deviation	Significant Level
Workshop routine	Pre-test	1/8	0/084
	Post-test	2/4	
Evidence-based	Pre-test	1/7	0/00
	Post-test	3/8	

In term of the comparison of clinical competency of the study group based on the evidence of CPR with routine nurses on artificial airway production, the results showed that in the routine workshop and based on evidence, the mean in the pre-test was 2.9 and 2.7. In the routine workshop and evidence-based group, the mean of post-test was 4.2 and 5.5, which indicates a significant effect of evidence-based learning on cardiovascular

disease in artificial airway ($p < 0.05$) (Table 11). The results of t-test showed that there was no significant difference between the pre-test and post-test routine in the pre-test and post-test groups ($p \leq 0.05$). In the evidence-based group, there was a significant difference between the pre-test and post-test groups ($p \leq 0.05$). The evidence-based learning group is a CPR rather than a routine nursing workshop on artificial airway (Table 12).

Table 11: Comparison of evidence based and routine-based learning based on clinical competence of nurses in establishing an airway by independent t test

Variable name	The average	Standard deviation	Significant Level
Pre-test of Basic CPR	Workshop routine	2/9	83/0
	Evidence-based	2/7	
Post-test of Basic CPR	Workshop routine	4/2	002/0

Evidence-based	5/5	59/0
----------------	-----	------

Table 12: Comparison of two evidence-based and routine learning methods on the clinical competence of nurses in establishing an airway by t-correlation test

Variable name		The average	Standard deviation	Significant Level
Workshop routine Basic CPR	Pre-test	2/9	54/0	098/0
	Post-test	4/2	84/0	
Evidence-based Basic CPR	Pre-test	2/7	46/0	00/0
	Post-test	5/5	59/0	

The results of the study on the comparison of clinical competency of the nurses of the CPR training group with routine workshop in the implementation of the principles of the onset and termination of CPR showed that in the routine workshop and evidence-based group, the mean in the pre-test was 5.4 and 7.5 and in the routine workshop and evidence-based group, the mean of post-test was 7.6 and 10.6, which indicates the significant effect of evidence-based education on CPR on the implementation of the principles of CPR beginning and ending ($p < 0.05$) (Table 13). The results of t-test showed

that there was no significant difference between the pre-test and post-test routine in the pre-test and post-test groups ($p = 0.09$). There was a significant difference between the pre-test and post-test groups in the experimental group ($p \leq 0.05$) The evidence-based group compared to the post-test workshop routine group shows that the clinical competency of the nurses in the evidence-based learning group is more than the routine workshop nurses in the implementation of the onset and end of the CPR (Table 14).

Table 13: Comparison of evidence-based and routine-based learning based on nurses' clinical competency in the implementation of the start and end of CPR by independent T test

Variable name		The average	Standard deviation	Significant Level
Pre-test of CPR	Workshop routine	5/4	73/0	49/0
	Evidence-based	5/7	6/0	
Post-test of CPR	Workshop routine	7/6	84/0	001/0
	Evidence-based	10/6	74/0	

Table 14: Comparison the effect of evidence based and routine-based learning on nurses' clinical competency in the implementation of CPR (starting and termination) with t-test

Variable name		The average	Standard deviation	Significant Level
Workshop routine on starting and ending the CPR	Pre-test	5/4	73/0	064/0
	Post-test	7/6	84/0	
Evidence-based on starting and ending the CPR	Pre-test	5/7	0/6	00/0
	Post-test	10/6	74/0	

The results of comparing the clinical competency of the survivors of the CPR group with routine nurses in advanced CPR showed that in the routine workshop and evidence-based group, the mean in the pre-test was 6.7 and 6.6, respectively, and in the group The routine workshop and evidence-based mean are in the post-test 8 and 10/3, which shows a significant effect of evidence-based education on CPR on advanced CPR ($p < 0.05$) (Table 15). The results of t-test showed that there was no

significant difference between the pre-test and post-test in the routine groups and there was a significant difference between the pre-test and post-test groups in the evidence-based group ($p \leq 0.05$). Regarding the higher mean of the evidence-based group compared to the post-test routine group, the clinical competence of the researchers in the evidence-based learning group of CPR is more than the routine workshop nurses in advanced CPR (Table 16).

Table 15: Comparing the clinical competency of the survivors of the CPR group with routine nurses in advanced CPR

Variable name	The average	Standard deviation	Significant Level
---------------	-------------	--------------------	-------------------

Pre-test of Advanced CPR	Workshop routine	6/7	54/0	83/0
	Evidence-based	6/6	72/0	
Post-test of Advanced CPR	Workshop routine	8	65/0	048/0
	Evidence-based	10/3	71/0	

Table 16: Comparison of evidence-based and routine-based learning based on nurses' clinical competency in advanced CPR using independent t-test

Variable name		The average	Standard deviation	Significant Level
Pre-test of Advanced CPR	Workshop routine	6/7	54/0	83/0
	Evidence-based	6/6	72/0	
Post-test of Advanced CPR	Workshop routine	8	65/0	048/0
	Evidence-based	10/3	71/0	

In term of the comparison of clinical competency, the nurses of the cardiopulmonary evidence-based education group from routine nurses in the implementation of the principles of the onset and completion of CPR showed that in the routine workshop and evidence-based group, the mean in the pre-test was 16.7 and 16.8 In the routine workshop and evidence-based group, the mean in post-test is 22.22 and 22.3, which indicates significant evidence-based effectiveness of cardiopulmonary resuscitation on the implementation of the principles of the onset and end of CPR ($p < 0.05$) (Table 17).

The results of t-test showed that there was no significant difference between the pre-test and post-test routine in the pre-test and post-test groups and there was a significant difference between the pre-test and post-test groups in the evidence-based group ($p \leq 0.05$). Regarding the higher mean of the evidence-based group compared to the post-test routine group, the competence of nurses in the evidence-based learning group for cardiopulmonary resuscitation is more than the routine workshop surgeon in implementing the principles of the onset and end of the CPR (Table 18).

Table 17: Comparison of evidence based and routine-based learning based on nurses' clinical competency in implementing the principles of the starting and termination of the CPR

Variable name		The average	Standard deviation	Significant Level
Pre-test of CPR	Workshop routine	16/7	0/64	0/96
	Evidence-based	16/8	0/81	
Post-test of CPR	Workshop routine	22/3	0/64	0/008
	Evidence-based	30/3	0/58	

Table 18: Comparison of two evidence-based and routine learning methods on nurses' clinical competency in implementing the principles of initiation and termination of CPR with of t-test

Variable name		The average	Standard deviation	Significant Level
CPCR routine workshop	Pre-test	16/7	0/64	0/084
	Post-test	22/3	0/64	
CPCR Evidence-Based Post-Test	Pre-test	16/8	0/81	0/00
	Post-test	30/3	0/58	

DISCUSSION

Evidence-based nursing is considered as one of the new methods of training. The purpose of this study was to determine the effect of two evidence-based methods and a routine cardio-pulmonary rehabilitation workshop on nurses' clinical competencies. In this section, the results of this study are discussed. The results of this study showed that the comparison between the effect of two evidence-based teaching methods and routine CPR on

nurses' clinical competency was not statistically significant in terms of age, sex, and work experience, in other words, the two groups were homogeneous. In this study, the effect of clinical trials on evidence-based learning groups was confirmed at the onset of the principles of CPR more than the routine workshop group ($p < 0.05$). In this regard, Habibzadeh et al. Study aimed to determine the effect of evidence-based nursing education on the skill of nursing process implementation among nursing students showed that nursing process skills in

the intervention group of students who were trained based on nursing education was significantly better than control group students ($p < 0.001$). Comparing the two groups, the difference in the mean scores of clinical practice in the two groups after the intervention was statistically significant ($p < 0.001$) [11].

It seems that with evidence-based nursing, new gates can be opened to students to examine the patient in a multidimensional fashion, in a way that does not only make the patient, but also the family and the patient's environment, more comprehensive. Why, if the patient's examination is appropriate, the patient's care plan will also be more comprehensive. But if the patient's examination is not carried out comprehensively, the patient's problems will remain hidden. Also, the results of the study of the effect of research on the clinical competence of the survivors of the educational group based on the evidence of CPR were significantly ($p < 0.05$) compared to the routine nurses working on artificial anesthetic airway. In this regard, Rahmani *et al.* in their study showed that evidence-based care increases the quality of knowledge, skills, and care [12]. It can be concluded that evidence-based performance is a priority in meeting needs, identifying problems and, consequently, improving the quality of nursing care that is consistent with our study.

In the present study, clinical competence in the learning group based on evidence of CPR was found to be significantly higher than that of the routine workers at the beginning and end of the CPR ($p < 0.05$). In this regard, the findings from the study of Considine *et al.* showed that the use of evidence-based care in patients with stroke improves care and results in better treatment outcomes [13]. The study of Green *et al.* suggested that the emergence of clinical scenarios and the conduct of the subjects by students contributed to the effectiveness of education [14].

Tehran *et al.* states in his study that the use of evidence in the clinical context brings together theoretical and practical concepts, and according to the existing literature, the progress from the theoretical stage to practice is not possible with practical knowledge alone, and professional preparation requires learning in the real environment [15]. The combination of theoretical and practical foundations for solving skill challenges has always been emphasized by the researchers [15,16].

In the present study, clinical competence in the learning group based on evidence of CPR was found to be significantly higher than that of the routine workers at the beginning and end of the CPR ($p < 0.05$). In this regard, Nezamzadeh *et al.* [17] conducted a study aimed at influencing the evidence-based nursing care guidelines in the care of patients with angina pectoris. In this study, for the purpose of designing guidelines, nursing diagnosis was prioritized using evidence-based articles. After the implementation of the application, the guidelines were examined.

In this research, the provision of evidence-based care has improved the quality of planning for a moderate level of

care [17]. In the same vein, Drew *et al.* showed that guidelines that used the best evidence available to them could accurately guide nursing care in patients [18].

Also, in the present study, the results of comparing the effect of the research on the competence of survivors of the educational group based on evidence of CPR with routine nurses in the implementation of the principles of initiation and termination of CPR were significant ($p < 0.05$).

In this regard, the results of the Gibler *et al.* study aimed at examining evidence-based guidelines for the management of unstable angina and myocardial infarction patients. The study concluded that evidence-based guidelines for patients were helpful in both care management at both hospital and in-patient care, and would provide better care for patients and lead to better results [19]. In total, Evidence-based care can be taken by effective steps to increase patient satisfaction, promote self-efficacy and empowerment, improve nursing professional identity, identify the role of interventions in treatment and care, and provide effective interventions [20].

CONCLUSION

The uniqueness of the existing guidelines and the low quality of them show the need for designing high-quality, specific evidence-based guidelines in different sectors. The design of such guidelines will provide the basis for using nursing research in the clinic and provide an effective step towards evidence-based nursing. Evidence-based nursing education can be effective in nursing process skills, according to the documentation mentioned in the research.

Therefore, it is important to learn this method and its use in clinical settings because nursing students and nurses every day need reliable information on diagnosis, treatment, prognosis, prevention, investigation, recognition, planning, implementation and evaluation. On the other hand, traditional sources of information such as routine workplace practices are inadequate and often outdated.

This approach leads to improved critical thinking, independent clinical decision making, and ultimately increased nursing care. Therefore, the emphasis on evidence-based nursing in theoretical and practical issues of nursing education and familiar nursing research among nursing managers and planners with barriers to using the results of clinical research and providing practical strategies is an effective step towards the growth and development of nursing professionals. Limited examples of this study are the lack of sample size. This study was also limited to the research environment in a particular part of the country. Obviously, the repetition of this study in different research environments and in other nursing educational institutions will lead to the identification of other aspects of the strengths and weaknesses of evidence-based nursing. Also, by conducting studies in nursing faculties

on nursing students, we can examine the effects of using evidence-based nursing on academic learning.

CONFLICT OF INTEREST

The authors declared no potential conflicts of interests with respect to the authorship and/or publication of this paper.

REFERENCES

- Moghadam PM, Haghghi MJ, Shahdadi H, et al. The impact of evidence-based education on nursing students' critical thinking. *J Nurs Edu* 2015; 4:9-17.
- Nouhi E, Abdollah-Yar A, Harandi TF. Evaluating the nursing clinical decision in hospitals of Kerman university of medical sciences, Iran, after evidence-based nursing education and comparison with a control group. *Strides Dev Med Educ* 2014; 11:264-71.
- Kenari MA. Effect of evidence-based method clinical education on patients care quality and their satisfaction. *Adv Appl Sociol* 2014; 4:59.
- Melnyk BM, Gallagher-Ford L, Long LE, et al. The establishment of evidence-based practice competencies for practicing registered nurses and advanced practice nurses in real-world clinical settings: Proficiencies to improve healthcare quality, reliability, patient outcomes, and costs. *Worldviews Evid Based Nurs* 2014; 11:5-15.
- Linton MJ, Prasun MA. Evidence-based practice: Collaboration between education and nursing management. *J Nurs Manag* 2013; 21:5-16.
- Rejheh N. The evidence-based nursing education. *J Nurs Educ* 2013; 2:49-54.
- Cheraghi MA, Mohamadnezhad A, Salari A. Cardiopulmonary resuscitation training effect on brain levels of knowledge. *Scientific J Rescue* 2011; 3:33-9.
- Moatary M, Akaberian S, Mirzaie K. Determining nurses' clinical competence in hospitals of Bushehr University of Medical Sciences by self assessment method. *Tibb-i Junub* 2008; 11:69-75.
- Soltany B, Afkar AH, Mousavi SH, et al. Evaluating effectiveness of evidence based decision-making educational course on healthcare domain managers based Krick-Patrick model. *Int J Adv Biotechnol Res* 2016; 7:983-9.
- Straka KL, Brandt P, Brytus J. Brief report: Creating a culture of evidence-based practice and nursing research in a pediatric hospital. *J Pediatr Nurs* 2013; 28:374-8.
- Habibzadeh H, Mohammadpour Y, Khalkhali HR, et al. Effect of evidence-based nursing training on nursing students ability in executive skill of nursing process in Urmia University of Medical Sciences, 2013. *J Urmia Nurs Midwifery Fac* 2013; 11:284-92.
- Rahmani Z, Aghakhani R, DEhghandevin A, et al. The effect of rehabilitation of cardiopulmonary resuscitation on the success rate of CPR on nurses working in Imam Khomeini hospital in Shirvan city in 2010. Summary of articles of the first national conference on experiences and functions of the Iranian primary health care system 2013; 1.
- Considine J, McGillivray B. An evidence-based practice approach to improving nursing care of acute stroke in an Australian emergency department. *J Clin Nur* 2010; 19:138-44.
- Green ML. Evidence-based medicine training in internal medicine residency programs. *J Gen Intern Med* 2000; 15:129-33.
- Tehran HA, Heidarpour A. Nursing students experiences toward evidence-based learning in clinical setting: A qualitative study. *IJME* 2012; 11:864-73.
- Li Y, Wu T, Shang H, et al. All sub centers attending the Chinese EBM working meeting in december 2008. Strategies for promoting the development of evidence-based medicine in China. *J Evid Based Med* 2009; 2:47-52.
- Nezamzadeh M, Khademolhosseini SM, Mokhtari NJ, et al. Design of guidelines evidence-based nursing care in patients with angina pectoris. *Iran J Crit Care Nurs* 2012; 4:69-76.
- Drew BJ, Califf RM, Funk M, et al. Practice standards for electrocardiographic monitoring in hospital settings: An American heart association scientific statement from the councils on cardiovascular nursing, clinical cardiology, and cardiovascular disease in the young: Endorsed by the international society of computerized electrocardiology and the American association of critical-care nurses. *Circulation* 2004; 110:2721-46.
- Gibler WB, Cannon CP, Blomkalns AL, et al. Practical implementation of the guidelines for unstable angina/non-ST-segment elevation myocardial infarction in the emergency department: A scientific statement from the American heart association council on clinical cardiology (Subcommittee on acute cardiac care), council on cardiovascular nursing, and quality of care and outcomes research interdisciplinary working group, in collaboration with the society of chest pain centers. *Circulation* 2005; 111:2699-710.
- Seydrasooli A, Valizadeh S, Hajebrahimi S, et al. The principle of evidence based nursing care in the senile women with urinary incontinence. *Majaleye Parastari Mamaiye Tabriz* 2010; 17:4-11.