

Attitude of acute care nurses to the family presence during resuscitation and emotional intelligence: a cross sectional study



Original article

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Abstract: Objective: Cardiopulmonary resuscitation (CPR) is one of the most important life-saving procedures in the hospital. Contrary to medical guidelines, family presence during CPR is still not accepted in some countries. Family presence during CPR depends on the nurses' attitude, which is influenced by various factors. Emotional intelligence (EI) helps nurses make wise decisions and display responsible behavior, which is necessary for proper and good performance in nursing. The study's purpose was to determine the attitude of acute care nurses toward family presence during CPR and its relationship with EI.

Methods: The descriptive-analytical study was conducted among the nurses of acute care units (intensive care unit [ICU], critical care unit, and emergency department) in teaching hospitals of Qazvin University of Medical Sciences, Iran, in 2022–2023. A total of 186 nurses were included in the study using convenience sampling. The data collection tools were a checklist of demographic characteristics, nurses' attitude toward the presence of family scale, and Siberia Schering's EI questionnaire. The collected data were analyzed using descriptive and analytical statistics and SPSS software.

Results: The mean age of the participants was (32.05 ± 6.93) years. Of 186 nurses participating in the study, 127 (68.3%) were women and the rest were men. The mean score of attitude was 47.41 ± 9.41 (the minimum score of the nurses was 19 and the maximum score was 95). The mean score of EI was 99.27 ± 8.86 (the minimum score was 69 and the maximum score was 128). The results of Pearson's correlation coefficient showed no significant relationship between the total score of attitude and EI of the participants ($P = 0.588$). Data analysis showed that only the self-arousal dimension of EI has a significant relationship with the range of family self-control behaviors in attitude ($P = 0.037$).

Conclusions: The results showed that the nurses of acute care units have a positive attitude toward the presence of the family during CPR and have high EI. Although no significant relationship was observed between the 2 variables, paying attention to the influencing factors on the attitude of the nurse toward family presence during CPR in different societies needs more research and investigation.

Keywords: attitude • cardiopulmonary resuscitation • critical care • emotional intelligence • family presence • nurse

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1. Introduction

Cardiac arrest is one of the most important causes of death worldwide.¹ The incidence of in-hospital cardiac arrest is estimated between 0.6 and 5 cases per 1000 admissions.¹ More than half of these occur in intensive care units (ICUs).² Cardiopulmonary resuscitation (CPR) is the first and main line of treatment for cardiopulmonary arrest.³ This is performed to increase the survival rate of patients.⁴ Based on the assumptions of patient- and family-centered care, there is now an expectation that, regardless of the context of care, the patient's family members should also be included in health care. As a result, the presence of the family during CPR increases.⁵

Family presence during resuscitation (FPDR) is empirically beneficial to patients, families, and health-care workers.⁶ But in practice, about 52% of European countries and 69% of countries on a global scale do not practice FPDR.⁷ This is because many professionals consider families as potential evaluators of care, which increases the possibility of legal proceedings.⁵

In addition, they fear that family members will interfere with the implementation of procedures, violate the confidentiality of care, and increase the team's sense of stress during care and disability before the patient's death.⁵ Therefore, this practice is rarely followed by healthcare professionals.⁸ Most and one of the members of the healthcare workforce are nurses.^{9,10}

Studies show that there are different views about FPDR.^{8,11,12} Nurses are likely to be the first responders to these conditions, as they spend a significant amount of time with patients and are often the first to recognize that a patient is experiencing cardiac arrest in the hospital.¹³ In order to achieve the ability to assess the situation and predict the results, they must have the knowledge, experience, and skills to use the fruitful information in solving problems, making judgments, and making professional decisions.¹⁴ Therefore, it can be said that emotional intelligence (EI) is related to the competence of understanding and the skill of solving arguments.¹⁵ It can significantly help nurses responsible for providing comprehensive care to a patient or a healthy person in difficult conditions.¹⁶ Because EI is a set of personal, emotional, and social competencies and skills that help a person to successfully cope with the pressures and demands caused by his environment.¹⁶ This concept plays an important role in nurses' success and allows them to think more effectively in difficult situations.¹⁴

In Iran, the family is culturally and religiously valuable, and the presence of family members in the last moments of life is important.¹¹ On the other hand, family presence during CPR is a challenging issue in Iran. This issue can cause stress, may lead to a wrong decision,

and generally disrupt the resuscitation activity.¹² However, there were not enough studies on the relationship between the attitude toward family presence during CPR and EI. Therefore, the present study was conducted to investigate the relationship between the attitude of acute care nurses to the FPDR and EI.

2. Methods

2.1. Setting and study design

The descriptive-analytical study was conducted among the nurses of acute care units (ICU, coronary care unit [CCU], and emergency department) in teaching hospitals of Qazvin University of Medical Sciences, Iran, in 2022–2023. The sample size was estimated by using a formula and finally, 186 nurses were included in the study by convenience sampling. The criteria for entering the study were having a bachelor's degree in nursing and willingness to participate in the study. If the questionnaire was incomplete, the sample was excluded from the study. The questionnaires were given to the nurses in the morning, evening, and night shifts, and were requested to answer the questions. Additional information was given to them if necessary. The time to complete each questionnaire was between 60 min and 90 min.

2.2. Data collection tool

2.2.1. Checklist of demographic characteristics

This checklist includes age, sex, academic degree, service department, marital status, years of experience, history of participation in Advanced Cardiovascular Life Support (ACLS) specialized courses, and history of CPR in the presence of the patient's family members.

2.2.2. Nurses' attitude toward presence of family scale

This scale has 19 questions in 6 domains—4 questions are related to health beliefs, 3 to triggers, 2 to self-efficacy, 2 to norms, 7 to perceived behavioral control, and question 19 is a direct question regarding agreeing or disagreeing with the FPDR. Answers to the questions were graded on a Likert scale with 5 options from strongly support (1) to strongly not support (5) and the main scoring was based on the analysis of the linear regression scale. The calculation of the range of scores is inverse, that is, a high score indicates a negative opinion toward the FPDR. CPR experts consisting of 5 nursing educators, 3 nurses and 2 physicians from CPR teams reviewed and confirmed the validity of the content. The reliability coefficient of the questionnaire has

been reported as 0.83 by using the internal consistency index (Cronbach's alpha).¹⁷ In the present studies, the internal reliability of the questionnaire was acceptable (Cronbach's alpha = 0.85).

2.2.3. *Siberia Schering's EI questionnaire*

This questionnaire has 33 items that measure the 5 dimensions of EI, which include self-awareness (items 6, 10, 14, 24, 32, 33, 27, 12), self-control (items 5, 2, 11, 16, 18, 23, 30), self-arousal (items 1, 9, 15, 20, 26, 31, 21), sympathy (items 17, 22, 25, 29, 4, 3), and social skills (items 7, 8, 19, 28, 13) is measured. The scoring of these items is on a 5-point Likert scale, which includes the options: I completely disagree, I disagree, I have no opinion, I agree, and I completely agree; which are awarded 1, 2, 3, 4, and 5 points respectively. In items 9, 10, 12, 14, 18, 20, 22, 28, and 33, the way of scoring is the opposite. Finally, each subject receives 6 separate marks; of which 5 points are related to each of the components and one point is the total score of EI. The total score range of this questionnaire is from 33 to 165. The higher this score is, the higher the level of EI. The reliability and validity of this questionnaire was investigated and its Cronbach's alpha was reported 0.85.¹⁸ The internal reliability of the questionnaire in the present study was 0.84 with Cronbach's alpha.

2.3. Analysis

After collecting the data and entering them into the software, the statistical analysis of the data was done using SPSS software (version 25, IBM Corporation, Armonk, New York, United States) and descriptive and analytical statistics. The normality of the data in different groups was checked using the Kolmogorov–Smirnov test. Pearson's correlation coefficient was used to investigate the linear relationship between 2 quantitative variables, and Spearman's correlation coefficient to investigate the linear relationship between 2 ranked variables. It should be noted that the level of significance in all studies was considered $\alpha = 0.05$.

3. Results

Of the 186 nurses who participated in the study, 127 (68.3%) were women and the rest were men. The mean age of the participants was (32.05 ± 6.93) (ranging from 21 years to 54 years). 44.1% of participants worked in ICU, 12.4% in hemodialysis, 35.5% in the emergency department, and the rest in CCU. The mean working experience of the participants was 8.73 ± 6.13 (ranging from 1 year to 29 years). Of all the participants, 158 (84.9%) had

undergone CPR courses, and 78 (41.9%) of the participants stated that they had no experience of CPR in the presence of family members.

3.1. Attitude toward family presence during CPR

The mean overall attitude score was 47.41 ± 9.41 (the minimum score was 19 and the maximum score was 95). The mean overall attitude score in women was (47.11 ± 9.30) and in men was 48.06 ± 9.70 . According to independent *t*-test results, there is no significant difference between the 2 groups ($P = 0.520$). Pearson's correlation coefficient showed a positive and significant relationship between age and work experience with attitude ($P = 0.001$). The mean score of attitude in participants who took CPR courses was equal to 47.41 ± 9.04 and this score in participants who did not take these courses was equal to 49.10 ± 11.34 . Based on the independent *t*-test results, there is no significant difference between the 2 groups ($P = 0.303$). Although, based on the results of a one-way analysis of variance, the mean total score of attitude in nurses of different departments was not significantly different from each other ($P = 0.300$), the overall score of attitude in nurses of the hemodialysis department was lower than other departments (Table 1). The mean score of the total attitude in participants who had a history of CPR in the presence of family members was equal to 48.25 ± 8.90 and in participants who did not have this experience, it was 46.24 ± 10.02 . Independent *t*-test results showed no significant difference between the 2 groups ($P = 0.158$).

3.2. EI

The mean score of the total EI of the samples was 99.27 ± 8.86 (the minimum score was 69 and the maximum score was 128). The highest score of participants in the self-awareness dimension was 24.17 ± 2.56 (Table 2). The total score of EI was 99.74 ± 8.66 in women and 98.25 ± 9.27 in men. In the independent *t*-test results, there is no significant difference between the 2 groups ($P = 0.286$). Among the dimensions of EI, only the self-motivation of women is significantly higher than men ($P = 0.021$). According to the results of the one-way variance analysis, there is no significant difference between the average score of EI in different departments ($P = 0.955$). However, the total score of EI in hemodialysis department nurses was higher than in other departments (Table 3). The results showed a negative and significant relationship between EI and age ($P = 0.006$), and work experience ($P = 0.003$).

Descriptive statistics	N	Minimum	Maximum	Mean	Std. Deviation	95% Confidence interval	
						Lower	Upper
Health beliefs	186	4.00	20.00	9.4892	3.02644	9.0514	9.9270
Triggers	186	4.00	20.00	11.0968	2.63476	10.7156	11.4779
Self-efficacy	186	2.00	10.00	6.8978	1.89887	6.6232	7.1725
Norms	186	2.00	10.00	4.4785	1.50389	4.2609	4.6960
Perceived behavioral control	186	7.00	35.00	15.4516	4.08561	14.8606	16.0426

Table 1. Mean and standard deviation of attitude toward family presence during cardiopulmonary.

Department	N	Mean	Std. deviation	Std. error	95% Confidence interval for mean		Minimum	Maximum
					Lower bound	Upper bound		
ICU	82	46.57	5.85	0.64	45.28	47.86	24.00	62.00
Emergency	66	48.77	13.27	1.63	45.51	52.03	19.00	95.00
Hemodialysis	23	45.34	7.42	1.54	42.13	48.55	24.00	55.00
CCU	15	49.20	6.73	1.73	45.47	52.92	41.00	67.00
Total	186	47.41	9.41	0.69	46.05	48.77	19.00	95.00

CCU, coronary care unit; ICU, intensive care unit.

Table 2. Mean and standard deviation of attitude toward family presence during cardiopulmonary in different departments.

Department	N	Mean	Std. deviation	Std. error	95% Confidence interval for mean		Minimum	Maximum
					Lower bound	Upper bound		
ICU	82	98.86	7.67	0.84	97.17	100.55	73.00	113.00
Emergency	66	99.60	9.63	1.18	97.23	101.97	69.00	128.00
Hemodialysis	23	99.73	10.28	2.14	95.29	104.18	73.00	115.00
CCU	15	99.33	9.94	2.56	93.82	104.83	74.00	112.00
Total	186	99.27	8.86	0.65	97.99	100.55	69.00	128.00

Note: CCU, coronary care unit; ICU, intensive care unit.

Table 3. Mean and standard deviation of EI

3.3. The relationship between the attitude toward the FPDR and EI

Pearson's correlation coefficient results showed no significant relationship between the total score of attitude and EI of the participants ($P=0.58$). Data analysis showed that only self-arousal dimension of EI has a significant relationship with the range of family self-control behaviors in attitude ($P = 0.037$) (Table 4).

4. Discussion

In the present study, the attitude of acute care nurses toward family presence during CPR and its relationship with EI was investigated. Acute care units have a high workload and many care complications. Nevertheless, it seems that the nurses of these departments support and demand family-centered care during CPR. The

results showed that these nurses have a positive attitude toward the family presence during CPR. Family-centered care is an innovative approach to planning, implementing, and evaluating interventions that are based on mutually beneficial collaborations between patients, families, and caregivers.¹⁹ Allowing families to touch and say goodbye to their loved ones may make resuscitation calmer and more peaceful. The belief that their loved ones did not die alone gives the patient's family a sense of strength.²⁰ In line with the findings of the present study, the study of Hosseini Marznaki et al.⁸ also showed that emergency department nurses have a positive view of family presence during CPR. In the study of Abuzeyad et al.,⁷ which was conducted among healthcare providers, 21.6% of nurses and 53.7% of doctors supported the policy of family presence during CPR. In other words, among nurses, the results of this

Dimensions of attitude	Health beliefs	Triggers	Self-efficacy	Norms	Perceived behavioral control	Total score
Dimensions of intelligence						
Self-awareness	-0.046	0.019	0.050	-0.003	-0.014	-0.006
Self-control	-0.033	-0.016	0.071	-0.009	-0.057	-0.027
Self-arousal	-0.060	0.018	0.057	0.016	-0.153 (<i>P</i> -value = 0.037)	-0.066
Sympathy	0.140	0.088	0.067	0.010	-0.003	0.084
Social skills	-0.120	-0.111	-0.042	-0.107	0.001	-0.095
Total score	-0.041	-0.002	0.073	-0.031	-0.083	-0.040

Note: EI, emotional intelligence; FPDR, family presence during resuscitation.

Table 4. Relationship between the attitude toward the FPDR and EI.

study are not consistent with the findings of the present study, while among doctors, they are consistent with the findings of the present study. In the study of Esmaeli Abdar et al.¹⁷ and the study of Keshvarzi et al.¹² in Iran, the results showed that most nurses are against family presence during CPR and do not have a positive opinion about this practice (FPDR). It seems that this can be explained by their fear that the presence of family members during CPR may cause family involvement in CPR.

In the study of Al Bshabshe et al.,²¹ which was conducted among doctors, most doctors were against family presence during CPR. Although the samples of the above study are different from the present study, it seems that factors such as performance anxiety, employee distraction, and performance interference can explain the difference in the results of the 2 studies. In Barreto et al.'s²² study, it was also found that doctors and nurses have a negative attitude toward the family presence during CPR because, in their opinion, infra-structural changes and staff training are needed for family presence during CPR. It seems that the lack of proper infrastructure and sufficient training is one of the reasons for the difference between the results of the above study and the present study. Traditionally, family members are not allowed to be present during the CPR of hospitalized patients.²³ But in some countries, FPDR is accepted, recognized, and used, and there are many places where this practice is not followed and has become very controversial.²³ It seems that the attitude of nurses toward family presence during CPR in Western countries is more positive than in Middle Eastern countries⁸ because cultural background affects the opinions of nurses' about FPDR.²³ Therefore, in an integrative study where 15 articles were reviewed, it was found that there are many differences in the general attitude toward FPDR among healthcare professionals.²³ It seems that FPDR is still a researchable and debatable topic, especially in Middle East countries because we observe that there are various organizational, cultural, and individual factors that influence nurses' attitudes toward FPDR.

The results of the present study showed that nurses in acute care units have high EI and there is a significant relationship between EI and work experience and age. In Masoudi and Alavi's study,²⁴ the level of EI of nurses was reported at a good level, and the results of the 2 studies are consistent with each other. In both studies, the dimension of self-awareness got the highest score and the mean score of EI shows a significant difference with age and work experience. In line with the present study, in the study of Rakhshani et al.,²⁵ EI scores are at a good level, and in both studies, sex and EI are not significantly related to each other, and women have obtained higher scores. In line with the present study, work experience has a significant relationship with EI in the study of Aljarboa et al.²⁶ In Moradian et al.'s study,²⁷ the level of EI of nurses who took care of COVID patients was reported to be average. In the study of Sun et al.²⁸ among frontline nurses during the COVID pandemic, mean EI was reported to be higher, which is different from the results of the present study. It seems that the care of COVID patients due to high psychological and work pressures has been able to change this variable in the above 2 studies. In addition, although the tool used in Moradian et al.'s study is different from the present study, they had higher self-awareness scores in both studies, and there is no significant relationship between EI and sex and department of service. In Raeissi et al.'s study,²⁹ although an average level of EI was reported for nurses, but in line with the present study, the dimension of self-awareness received the highest score among the dimensions of EI. Contrary to the results of the present study, Khan et al.'s³⁰ study showed no significant relationship between EI and age, but showed a significant relationship between EI and sex. Although different words about the level of EI depending on the type of tool used have been reported for nurses, in general, in some studies, the level of EI of nurses is appropriate^{31,32} and in some studies, it has been stated as low.³³

The results of the present study showed no significant relationship between the attitude toward

FPDR and the EI of nurses even though studies have shown that EI is related to performance, management, and dealing with problems and conflicts.^{34–36} In the researchers' search a study that specifically examines the relationship between the attitude to FPDR and EI was not found. It seems that the present study is one of the first studies in this field. In some studies, variables and factors have been proposed that can be indirectly analyzed along with EI. In studies, competence in supporting family members during CPR, the stress of the resuscitation team,³⁷ impaired concentration and tension in team members,³⁸ professional stress among staff,²¹ and self-confidence of nurses³⁹ were among the factors related to the attitude toward FPDR. It seems that the factors mentioned above can be included in the set of EI abilities. Because EI abilities help a person in various fields such as time management, decision-making, responsibility, empathy, and stress tolerance.⁴⁰ If family presence during CPR is considered a stressful and critical experience, EI gives nurses the power to think better in critical and difficult situations and make better decisions by controlling psychological reactions.²⁷ Because EI can help create empathy (the ability to see the world through the eyes of others).⁴¹ It is also very important to consider the dimensions of EI because we can evaluate the nurse and recognize the area where the person is weak and plan to improve it.²⁷ In Masoudi and Alavi's study,²⁴ it was found that EI and clinical decision-making have a significant and positive relationship with idiosyncrasy. If we consider family presence during CPR as a clinical decision, the results of the 2 studies are not consistent. In Adegboyega et al.'s study,⁴² it was also found that EI has a significant relationship with attitude to exams. Although the above study did not consider the attitude toward FPDR and was conducted among students, the results of the 2 studies are not consistent with each other in terms of the word attitude. It seems that the differences in work experience and age explain this inconsistency as the students of the above study are younger and do not have work experience compared to the participants of the current study.

5. Conclusions

There are various contradictions and similarities in the reported studies regarding the attitude toward FPDR. Acute care nurses are the main elements in the CPR process. Therefore, it is crucial to pay attention to the factors affecting their attitude toward FPDR. Based on the results of the present study, acute care nurses have a positive view of family presence during CPR and

have good EI even though there was no significant relationship between the 2 variables. However, the results showed a direct relationship between the attitude toward FPDR and EI. Due to the importance of this topic, policymakers and nursing managers are expected to pay attention to this topic. Considering the limitations of the existing study in this field, it is suggested that researchers should do more studies. By reviewing the studies, we can conclude that international comparative studies can produce useful results.

Limitations

Convenience sampling was one of the main limitations of the study due to the possibility of limiting generalizability. In addition, self-reporting was also one of the other limitations of the study.

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Authors' contributions

MS and SN designed the study. AH, AS, YM, and AB participated in data collection. SN and MS analyzed and interpreted the data. MS and NC wrote the main manuscript text. All authors read and approved the final manuscript.

Availability of data and materials

Data are available by contacting the corresponding author.

Ethical approval

Permission to conduct the research and collect data was obtained from the Ethics Committee of Qazvin University of Medical Sciences (IR.QUMS.REC.1401.059). Information related to the objectives of the study was given to the samples. Confidentiality of information and voluntary participation in the study were informed. Written informed consent was obtained from the samples. All methods were performed in accordance with the declaration of Helsinki.

Conflicts of interest

All contributing authors declare no conflicts of interest.

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