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Barriers to the success of cardiopulmonary resuscitation teams in emergency departments: A perspective from nurses



Alireza Sadeghi¹, Hosein Jahani², Mojtaba Senmar^{2*}, Farzaneh Mehdipour³, Amir Reza Mirzaei¹, Ali Poorshivaee¹ and Faranak Sadat Hosseini¹

Abstract

Background Cardiopulmonary arrest is one of the most important emergency situations in hospitals. Although cardiopulmonary resuscitation has long been the first step in these conditions, the low success rate of this process is still a major concern in treatment systems. Therefore, identifying the barriers and causes of failure of the cardiopulmonary resuscitation team has become an important factor in improving the results. The present study was conducted to identify the barriers to the success of cardiopulmonary resuscitation teams in emergency departments.

Methods A descriptive-analytical study was conducted in the emergency department of teaching hospitals in Qazvin, Iran 2023–2024. Using available sampling, 198 emergency department nurses were included in the study. Nurses were included in the study if they had at least 6 months of work experience in the emergency department, had at least a bachelor's degree, and experienced at least one cardiopulmonary resuscitation operation. The exclusion criteria were incomplete completion of the questionnaires and withdrawal from the study for any reason. The data was collected using the demographic characteristics checklist and the questionnaire on barriers to the success of the cardiopulmonary resuscitation team. Data analysis was performed using SPSS-24 software and descriptive and inferential statistics. The significance level of all tests was considered less than p < 0.05.

Results The mean age of the participants was 30.96 ± 5.15 . Out of 198 nurses participating in the study, 125 were female (63.1%) and the rest were male. According to the results, the main barriers to the success of the cardiopulmonary resuscitation team in the emergency department are related to the individual and professional characteristics of the resuscitation team members with a score of 2.50 ± 0.38 and the least reason is related to the initial rhythm (2.70 ± 0.58) and in the individual and professional characteristics of the resuscitation team members, the lack of skilled and experienced people (2.62 ± 1.51) were the main barriers to the success of the cardiopulmonary resuscitation team. From the nurses' point of view, in the dimension of resuscitation team management, the absence of an effective leader in the team (2.41 ± 0.64), in the dimension of equipment and devices needed for resuscitation, the absence and unpreparedness of resuscitation equipment and devices in the department (2.53 ± 0.55), and in the dimension of program and educational facilities related to resuscitation, the lack of adequate and appropriate

*Correspondence: Mojtaba Senmar senmarmojtaba@gmail.com

Full list of author information is available at the end of the article



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educational facilities and equipment (2.40 \pm 0.64) were the main barriers to the success of the cardiopulmonary resuscitation team. The results of the t-test showed that there is no significant relationship between age, gender, and educational qualification with the average score of the whole questionnaire (*P* > 0.05).

Conclusions The results of this study showed that the individual and professional characteristics of cardiopulmonary resuscitation team members are the weak points and the most important barriers to the success of this team in the emergency department. Therefore, it is possible to reduce the barriers to the success of cardiopulmonary resuscitation and increase the survival rate of cardiopulmonary resuscitation by using experienced, skilled, and highly knowledgeable staff. Reducing or eliminating these barriers requires a detailed policy of managers and planners in individual, equipment, and training dimensions.

Keywords Cardiopulmonary resuscitation, Nurse, Code team, Emergency

Background

Cardiopulmonary arrest can occur anytime and anywhere [1]. Annually, about 375–700 thousand cardiac arrests occur in Europe [2]. This statistic is 292,000 cases in the United States annually [3]. In developed countries, cardiac arrest accounts for 15–20% of the natural deaths of adults [4]. Although there are no accurate statistics available in Iran [5]. But in a cohort study, in one of Iran's provinces, 1100 cases of in-hospital cardiopulmonary arrest were recorded in 5 years [6]. This fatal condition in which the mechanical function of the heart stops suddenly requires emergency treatment [7]. Because as one of the most common causes of death in the world [1], it leads to death if proper interventions are not performed [7]. Cardiopulmonary resuscitation (CPR) is the first intervention for cardiopulmonary arrest [8].

CPR is a life-saving maneuver in cardiac arrest [9]. However, the survival rate after CPR is low and varies in different countries. For example, the survival rate after this maneuver has been reported as 14.7%, 16%, and 12% in the United States, Britain, and Turkey, respectively [7]. The success of this operation depends on the treatments that are done for the patient [1]. Coordination of a set of actions such as rapid detection of cardiac arrest, activation of the rapid response system, chest massage, and rapid defibrillation are necessary for a successful resuscitation [10]. In addition, it should be said that other factors such as the patient's age and gender, drug interventions, experience, and knowledge of the resuscitation team also affect the success of CPR [11].

The CPR team includes people with various degrees and specialties [11]. However, nurses are often the first members of the healthcare team to deal with patients with cardiopulmonary arrest [9, 12]. They are eyewitnesses and first aid providers in patient emergencies [13]. Therefore, they have an important role and position in the CPR team and they may improve the consequences of it [11]. In the emergency department, CPR is considered one of the most stressful events for nurses [14]. Because on the one hand, there is little information about patients with cardiopulmonary arrest, and on the other hand, this department manages the largest number of patients with cardiopulmonary arrest [15]. Therefore, it should be said that different factors in the emergency department can affect the results of CPR [15].

In general, it should be said that the success of the CPR team depends on various factors, and there are many barriers to performing CPR in different departments of the hospital [7, 8]. However, regarding the perceived barriers to performing CPR by nurses, we are faced with limited information [7]. In addition, to adopt appropriate policies and interventions to perform successful CPR, we need to identify the barriers to the success of the CPR team. Considering the cultural and contextual differences of different parts of the world, the importance of nurses' perspective as one of the main members of the CPR team, and the incidence of cardiopulmonary arrest in the emergency department, the present study was conducted to investigate the barriers to the success of the CPR team in the emergency department from the nurses' point of view

Methods

Study design, participants and sample size

The present descriptive-analytical study was conducted among the nurses of the emergency department of Qazvin Medical Sciences Teaching Hospitals in Iran in 2023– 2024. Using Cochran's formula, the minimum sample size was calculated to be 168 people. Considering the nature of the emergency department in terms of workload and crowding of patients, the research team considered the possibility of a 15% drop in samples. Therefore, 198 emergency nurses were included in the study using the convenience sampling method. It should be noted that we did not drop out of the study and all 198 people entered the final analysis.

Inclusion criteria included having at least 6 months of experience in the emergency department, having at least a bachelor's degree, and having performed at least one CPR operation. Refusal to continue the study for any reason and incomplete completion of the questionnaires were the exclusion criteria. For sampling, first, a list of emergency department nurses of each hospital was received from the hospital management. The researcher visited the emergency department of each hospital on different days of the week and in different shifts. When the department was in a stable state (in terms of workload and number of patients), the objectives of the study, how to complete the questionnaires, and how to cooperate were explained to each nurse in coordination with the department manager. Each nurse was asked to answer the questionnaire questions accurately. In coordination with the department manager, a private room was provided to each person to complete the questionnaire. The duration of completing the tools for each person was about 20–35 min.

Data collection tools

Data collection was done using the checklist of demographic characteristics and the questionnaire of barriers to the success of the CPR team.

Demographic checklist

It included questions about age, sex, level of education, work experience, history of participating in CPR courses, and history of participating in CPR equipment training courses.

Questionnaire of barriers to the success of the CPR team

The information related to the barriers to the success of the CPR team was collected using the questionnaire of

Variable		N	%
Sex	Female	125	63.1
	Male	73	36.9
History of	Yes	188	94.9
participating in CPR courses	No	10	5.1
History of	Yes	180	90.9
participating in CPR equipment training courses	No	18	9.1
Level of	Bachelor of Science in Nursing	156	78.8
education	Master of Science in Nursing	42	21.2
Age (year)	20–25	20	10.1
	26–30	98	49.5
	31–35	43	21.7
	36–40	28	14
	41–45	6	3
	46–50	2	1
	51–55	1	0.5
Work	6 (month)- 5 (year)	82	41.4
experience	6–10	69	34.9
	11–15	36	18
	16–20	10	5
	>21	1	0.5

Kavosi et al. This questionnaire has 41 items in 5 dimensions: individual characteristics of patients (8 items), individual and professional characteristics of resuscitation team members (14 items), management of the resuscitation team (9 items), features related to Equipment and devices needed for resuscitation (7 items) and features related to the program and educational facilities (4 items). If an item is one of the barriers to the success of the CPR team, the nurse would choose the yes option (1) and if it is not a barrier, the nurse would choose the no option (0). If the option yes was selected, the importance of that item was determined by the nurse on a threechoice Likert response scale of low (score 1), medium (score 2), and high (score 3). The validity of the instrument has been confirmed in previous studies. Its reliability was also obtained by test-retest method using Cronbach's alpha of 0.89 [11, 16]. To determine the reliability of the present study, the test-retest method was used. Questionnaires were studied by 20 people from the community and collected after completion. The same questionnaires were given to the same people again after two weeks. The matching percentage of the questionnaires was 88%.

Analysis: The collected data was analyzed using SPSS-24 software. At the level of descriptive statistics, mean, Standard deviation, frequency indices were used, and at the level of inferential statistics, t-test and chi-square were used. The significance level of the whole test was considered less than 5%.

Results: In total, out of 198 nurses participating in the study, 125 were female (63.1%) and the rest were male. The mean age of the participants was 30.96 ± 5.15 . Most of the participants (49.5%) were in the age group of 26–30 years. The mean working experience of the people was 7.37 ± 4.64 years. 41.4% of people had less than 5 years of work experience and the rest had more than 5 years. 94.9% of the people had a history of participating in CPR courses. 9% of the nurses participating in the study had not completed courses that specifically teach CPR equipment (Table 1).

The results of the most important barriers were analyzed in two ways. First, 5 dimensions were compared with each other. In this way, the average scores of all items within each dimension were calculated. The results of the comparison of 5 dimensions showed that the most important barrier to the success of the CPR team from the point of view of nurses in the emergency department is the individual and professional characteristics of the resuscitation team members with a score of 2.50 ± 0.38 . Among the dimensions, the dimension of program and educational facilities related to resuscitation had the lowest score with a score of 2.32 ± 0.50 (Table 2). Therefore, from the nurses' point of view, this aspect is the least important in the success of the CPR team.

Table 2 Mean, standard deviation and ranking of barrier to the success of the CPR team (5 Dimension)

Dimension	N	Mean	Std. Deviation	Rank
Individual and professional char- acteristics of resuscitation team members	196	2.50	0.38	1
Individual characteristics of patients	198	2.45	0.45	2
Equipment and tools needed for resuscitation	198	2.38	0.42	3
Management of the resuscitation team	198	2.36	0.42	4
Program and educational facilities	198	2.32	0.50	5

To know which item is the most important barrier to the success of the CPR team in each dimension. In the second part of the analysis, the items within each dimension were compared with each other (Table 3). The results in the patient's individual characteristics dimension showed that the patient's initial rhythm is the most important barrier in this dimension (2.70 ± 0.58) . This importance in the individual and professional characteristics of the resuscitation team members dimension was related to the item "lack of skilled and experienced people in the resuscitation team" (2.62 ± 1.51) . The standard deviation (1.52) of this item indicated a wide range of perceptions among the participants. The most important barrier in the management dimension of the CPR team was related to the absence of an effective leader in the team (2.41 ± 0.64) . In terms of equipment and devices needed for resuscitation, the most important barrier was the absence and unpreparedness of resuscitation equipment and devices in the department (2.53 ± 0.55). In terms of the program and educational facilities related to resuscitation, the lack of adequate and appropriate educational facilities and equipment with an average of 2.40 ± 0.64 was the most important from the point of view of emergency department nurses. The results of the t-test showed that there is no significant relationship between age, gender, and academic degree with the average of the whole questionnaire (P > 0.05).

Discussion

The present study was conducted to determine the barriers to the success of the CPR team from the point of view of nurses in the emergency department, showed that the most important barrier from the perspective of these nurses is the individual and professional characteristics of the resuscitation team members. CPR is a process in which knowledgeable and experienced people try to restore a person's life using facilities and equipment. From the researcher's point of view, this finding of the current study indicates that human resources and its characteristics are at the center of this process. In CPR, team members have a series of characteristics and conditions that are effective in this operation [8]. Studies have also shown that the presence of skilled people can increase the success rate of CPR and hospital discharge [17]. On the other hand, the individual and professional characteristics of the resuscitation team members can cause failure or defects in the CPR process [7]. In other words, the individual and professional characteristics of the CPR team members are considered an Achilles heel for this process. The findings of the present study also confirm this. It seems that the success of the CPR team depends on the correct combination of people in this team, which should be considered by managers. the participants of the qualitative study of Dehghan-Nayeri et al. also mentioned the selection of competent, experienced, and skilled people as an indicator of the selection of members of the resuscitation teams [12]. In some way, the absence of such people can cause the activity of the CPR team to face serious problems. Although the above study was qualitative, the main theme is in line with the

Table 3 The mean and standard deviation of the main barrier to the success of the CPR team in each dimension

Dimension	Main barrier	No	If Yes			Mean(±SD)
			Low	Medium	High	
Individual characteristics of patients	Initial rhythm	1	3.5	20.2	75.3	2.70±0.58
	Underlying disease	0	3	23.7	73.2	2.70 ± 0.52
Individual and professional characteristics of resuscita- tion team members	Lack of skilled and experienced people	1	3	39.4	56.6	2.62 ± 1.51
	Lack of expertise or relevant educational qualification in any member of the CPR team	1	4.5	31.3	63.1	2.58±0.60
Management of the resusci- tation team	Absence of an effective leader in the team	0.5	7.1	43.4	49	2.41 ± 0.64
	Lack of direct supervision by the leader on the performance of the CPR team	1.5	3	49.5	46	2.40 ± 0.62
Equipment and devices needed for resuscitation	Absence and unpreparedness of resuscitation equipment and devices in the department	0	3	40.9	56.1	2.53±0.55
	Not using devices correctly and on time during resuscitation	0	4.5	43.4	52	2.47 ± 0.58
Program and educa- tional facilities related to resuscitation	lack of adequate and appropriate educational facilities and equipment	0	8.6	42.9	41.5	2.40 ± 0.64
	Lack of evaluation and feedback during the training course and after its completion in the field of resuscitation	1.5	7.6	49	41.9	2.31±0.67

findings of the present study. Another study in Iran also showed that individual characteristics are among the factors that influence the quality of CPR [18]. Although the above study was carried out with a qualitative approach, it examined the quality of CPR. However, the optimal quality of CPR can affect the success of this process. Therefore, it can be said that the findings of the two studies are consistent with each other and both studies confirm that the individual and professional characteristics of the resuscitation team members should be considered as an important factor for the team's success.

The remarkable finding in this dimension was that among the individual and professional characteristics of the CPR team members, the most important barrier to the team's success was the lack of skilled and experienced people. Although several personal characteristics affect the quality and success of the CPR team, from the perspective of the nurses in the present study, experience, and expertise are considered fundamental elements in the success of the CPR team. The researcher's experience as a member of the CPR team also confirms that although there are various barriers to the success of the CPR team, if the members of this team have weaknesses or deficiencies in the field of experience and proficiency, not only will we face challenges in the success of the CPR team, but the deficiency in this index will lead to many challenges such as stress, anxiety, and confusion. If we consider the experience and expertise of nurses as part of their competence in this process it should be said that the competence of nurses is one of the factors that play a role in the initial survival of a person after cardiac arrest [19]. In line with the present study, the study by Kavosi et al. also showed that the lack of skilled and experienced people is one of the main barriers to the success of the CPR team [16].

Toghraie and Pourafazli's study stated that the lack of personnel is the most important barrier to the success of the CPR team in the dimension of the individual and professional characteristics of the resuscitation team members [11]. In other words, the results of the two studies are not consistent in this dimension. The point that should be considered in explaining the difference in the results of the two studies is the background differences. It can be said that the research environment of the Toghraie and Pourafazli study was facing a shortage of personnel and the shortage of personnel was more pronounced based on the experience of the samples of the above study. Therefore, to interpret this difference, we need to pay attention to the structural differences and human resources of the two environments. In addition, it should be said that in the study of Toghraie and Pourafazli, the point of view of physicians and nurses has been examined. Maybe the presence of physicians with different expertise has caused the difference in the results of the two studies. Another point in explaining this difference is that in the above study, all nurses from all departments were included in the study, but in the present study, only emergency department nurses were included in the study. The emergency department is different from other departments due to its stressful and crowded nature.

Weiss et al.'s study among pre-hospital emergency technicians also showed that more experienced paramedics had a statistically significant increase in achieving stable Return of spontaneous circulation (ROSC) compared to less experienced paramedics [20]. Although the above study is different from the present study in the statistical community, in principle, the fact that the presence of experienced people in the CPR team affects the success of this process is in line with the view of the nurses of the present study. In general, it should be said that experience is a necessary but not sufficient condition for expertise, and not all experienced nurses are experts. Although experience and expertise are two different concepts, they are related to each other in practice [21]. This point further reveals the deep view of emergency department nurses about the important role of experience and expertise in the success of the CPR team. With a deep vision, they have considered two interrelated concepts as a requirement for the success of this process. Despite the considerable importance of in-hospital cardiopulmonary arrest, there are limited recommendations on the ideal composition of the CPR team [22]. However, based on the findings of the present study, managers and policymakers should consider using individuals with sufficient experience and expertise in the composition of the CPR team members to ensure the greater success of this team.

Nurses face many limitations and challenges in the management of CPR [12]. Individual characteristics of patients are one of the influencing factors in the success of CPR [23]. The present study also showed that the individual characteristics of the patient such as age, sex, and underlying disease are in the second place. In other words, the nurses of this department believe that the patient's characteristics can be the second most important barrier to the success of the CPR team. Although in a study in Isfahan, Iran [11], this dimension is the priority, in the analysis, it should be noted that the above study was conducted among all the nurses of the hospital. However, in the emergency department, the situation can be slightly different from the point of view of nurses in other departments. Because in this department nurses are facing various issues and problems. Factors such as lack of beds, overcrowding in the department, budget, and human resource limitations are among these issues [24]. It seems that due to the lack of nursing personnel in Iran, the individual characteristics of the patients have been given second priority from the nurses' point of view.

In the study of Kavosi et al. [16], the individual characteristics of patients have been assigned a lower priority. In other words, although the prioritizations in the above study and the present study are different, in principle, the fact that patient characteristics are not the first priority is consistent with the results of the study by Kavosi et al. The researcher believes that in explaining this finding, it is important to pay attention to the fact that the lived experiences of nurses in different cultures and societies are different from each other. And they make decisions based on the situation they face or have experienced. Therefore, although the patient's characteristics are considered one of the important barriers to the success of the CPR team, they have a lower priority than the individual and professional characteristics of the resuscitation team members. It seems that decision-makers in the arrangement of resuscitation team members should pay attention to the fact that the individual and professional characteristics of the human resources can be changed, but the individual characteristics of the patients are unavoidable.

The present study showed that in terms of the individual characteristics of the patients, the initial rhythm of the patient is the priority and the underlying disease of the patient is the second priority, the barriers to the success of the CPR team. Although these two important barriers to the success of the CPR team are unavoidable factors, knowing them can be effective in the accuracy and effort of the CPR team members. Most studies have examined CPR outcomes and the impact of patient-related factors on outcomes, and limited studies have identified patientrelated barriers. A cross-sectional study by Hajzargarbashi et al. also showed that the patient's initial rhythm and the underlying disease have a significant relationship with the success of CPR [25]. It seems that although the age and gender of patients are effective in the success of CPR [25, 26], the initial rhythm of the patient before CPR plays a significant role in the results of resuscitation, which is somehow in line with the findings of the present study. The results of the study by Dehghan-Nayeri et. also showed that the underlying disease of the patient can facilitate CPR in the pre-hospital emergency [8]. The important point in the above study is that from the point of view of the pre-hospital emergency personnel, it is easier for the family to accept the patient's death when the patient has an underlying disease. Therefore, the participants of the study of Dehghan-Nayeri et al. considered the underlying disease as a facilitator of the CPR process. In other words, the results of the two studies are inconsistent. Perhaps the reasons for the difference should be attributed to the goals of the two studies. Probably, the pre-hospital emergency personnel have considered how to perform CPR, and the success of CPR for them is in the second stage. Therefore, they have stated that the underlying disease of the patients facilitates resuscitation. However, in the present study, the success of the CPR team was considered.

The patient's initial rhythm and underlying disease are considered important factors in the success of CPR [27–29]. It is not surprising that the nurses in the present study have declared the presence of diseases such as cancer and initial rhythms such as asystole as the most important barriers to success. Although the current study was conducted quantitatively, it shows the hidden angles of barriers to the success of the CPR team. The researcher believes that although these two variables are unavoidable, the important issue is that knowing the barrier can lead people to adopt more effective approaches.

From the nurse's point of view in this study, the equipment and devices needed for resuscitation are the third most important barrier to the success of the CPR team, which is in line with the findings of a study in Iran [16]. Janatolmakan et al.'s study also showed that the lack of equipment, can be one of the barriers to the success of CPR [7]. Although the above study was conducted qualitatively, it is somehow in line with the views of the nurses in the present study. In Iran's hospitals, to ensure the proper functioning of CPR equipment and devices, this equipment are checked daily by the relevant manager of each department. Although from the point of view of the nurses of the present study, this dimension is ranked third, it is clear that the success of CPR depends on the correct performance and availability of equipment [30]. For example, the use of a mechanical chest compression device is associated with improved neurological output and patient survival [31]. In Toghraie and Pourafazli study, resuscitation equipment and devices were ranked fourth, which is different from the results of the present study [11]. In explaining the difference between the two studies, it is important to note two points. First, the Toghraie and Pourafazli study was conducted in one of the advanced provinces of Iran (Isfahan) and there is a possibility that the facilities and equipment in the hospitals of the above study are in a better condition than the hospitals of the present study. The second point is that the research community in the above study included physicians and nurses from different departments. This difference in the research community could have affected the results. Managers and relevant officials are expected to provide both up-to-date and advanced equipment for CPR and to eliminate existing deficiencies. Since we are dealing with human lives in this process, adopting strict policies to improve deficiencies can affect the results of resuscitation.

The fourth most important barrier to the success of the CPR team was the management of the resuscitation team. In other words, the nurses of the present study believe that the CPR management team has very important roles and duties in CPR, which is in line with the results of the study by Kavosi et al. [16]. An important functional factor in the resuscitation team is leadership [32]. The present study also showed that the absence of effective leadership in the team is the most important barrier in this dimension. However, in Toghree and Pourafazli's study, not announcing the results of performance evaluation to the people of the CPR team is the most important barrier in this dimension [11]. In explanation, we should mention that in Iran, the hospital supervisor examines the performance of the members of the resuscitation team during CPR and notes the strengths and weaknesses of these members on the relevant sheet. In the next steps, it is necessary to inform the members of the resuscitation team of their weaknesses and strengths. It seems that in the research environment of Toghari and Pourafazli's study, the responsible people do not fulfill this duty. Therefore, the results of the two studies differ from each other in this aspect. Although the guidelines do not specify who should be the team leader, there is consensus that leadership skills are a key area of focus for improving resuscitation outcomes [33]. Hunziker et al. [34] and Lin et al. [35] have also mentioned the important role of the leader in improving the outcomes and adequacy of CPR. In other words, the above studies are in line with the present study, in principle, that the existence of effective leadership can play an important role in the success of cardiopulmonary resuscitation. This finding can be used by managers in selecting the leader of the CPR team and they can consider the characteristics of that person in selecting an individual for this position.

According to the results, the program and educational facilities related to resuscitation are the last barriers to the success of the CPR team, which is not in line with the findings of the study by Kavosi et al. [16]. Because in the study of Kavosi et al., this dimension is the first priority. It seems that in the environment of the current study, the program and educational facilities of CPR are in good condition, and from the nurses' point of view, this aspect cannot be an important barrier to the success of the CPR team. Therefore, the difference between the results of the two studies can be explained to some extent. Conducting standard On-the-job training for resuscitation team members plays an important role in the results of CPR [16]. Improving the knowledge, skills, and performance of the resuscitation team members by holding basic and standard retraining programs is emphasized. Because retraining and updating the techniques and knowledge of nurses can be effective in reducing unsuccessful resuscitation cases [11]. Based on the results, training facilities and equipment and an appropriate evaluation and feedback system in CPR On-the-job training classes are more important than other items in this dimension. This finding in this dimension shows that for the success of the resuscitation team, it is necessary to organize and implement regular training programs. On the other hand, just holding workshops or training classes is not enough, and this type of training should be accompanied by a proper evaluation and feedback about the knowledge and performance of the people so that nurses can take steps to overcome their weaknesses. Holding On-the-job training with the latest equipment and holding this training at the right time and place can improve the knowledge and skills and, as a result, the performance of personnel. Therefore, it must be said that these two will not have meaning without each other.

Limitations

The sample size and cultural, social, and contextual differences limit the generalizability of the results. In addition, the self-report form of the questionnaires exposes the results to bias. This issue was tried to be resolved by explaining the goals to the nurses and asking them to complete the questionnaires accurately. Considering that the emergency department has a complex and crowded nature, the mental state of nurses at the time of completing the questionnaires may have an effect on the results.

Conclusion: The findings of the present study showed that different barriers play a role in the success of the CPR team in the emergency department. The individual and professional characteristics of the members of the resuscitation team were given the highest priority, and the program and educational facilities were given the lowest priority. It seems that improving the results of CPR and reducing the barriers to the success of this maneuver requires the use of a resuscitation team with a combination of expert, skilled, and experienced members. Hospital policymakers and managers are expected to reduce the barriers to the success of CPR by adopting appropriate training policies, providing up-to-date equipment and facilities, and a proper monitoring and evaluation system, along with the above point. Conducting studies in different research environments to compare nurses' perspectives can be of great help in formulating the right policies for the success of the resuscitation team. The results of the present study can be used as guidance in the arrangement of CPR team members and better management of this process in the hospital.

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Author contributions

All authors designed the study. A.S, F.M, and M.S participated in data collection, and data were analyzed by H.J and M.S. The final report and article were written by M.S, and were read and approved by M.S. All authors reviewed the manuscript.

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Data availability

The datasets used and/or analyzed during the current study available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

The present study is approved by the Ethics Committee of Qazvin University of Medical Sciences (IR.QUMS.REC.1401.220). The participants were given information about the purpose and method of conducting the study, the confidentiality of the information, and the optional participation in the study. Written informed consent was obtained from the nurses. All the steps of the research were done according to the Declaration of Helsinki.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Author details

¹Student Research Committee, Qazvin University of Medical Sciences, Qazvin, Iran

²Student Research Committee, Social Determinants of Health Research Center, Research Institute for Prevention of Non–Communicable Diseases, Qazvin University of Medical Sciences, Qazvin, Iran

³Non-Communicable Diseases Research Center, Research Institute for Prevention of Non-Communicable Diseases, Qazvin University of Medical Sciences, Qazvin, Iran

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