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Nurses' perception and self-confidence of family presence during cardiopulmonary resuscitation in Saudi Arabia

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Abstract:

BACKGROUND: Researchers have investigated the presence of families during cardiopulmonary resuscitation (CPR) to determine its benefits and barriers and the points of view of healthcare professionals, patients, and families. Family presence during resuscitation (FPDR) is debatable. Many professional health organizations worldwide, such as the Emergency Nurses Association, have suggested that healthcare facilities implement rules and policies that encourage the attendance of families and relatives during CPR. However, this does not consider the nurses' points of view or self-confidence during FPDR. The main aim of this study is to evaluate nurses' perceptions and self-confidence related to family presence during CPR in Saudi Arabia.

MATERIALS AND METHODS: This descriptive correlation study was conducted between March and April 2022 at King Abdul Aziz University Hospital in Jeddah. A survey was completed by participants to collect their sociodemographic data. The relationship between Family Presence Risk-Benefit Scale (FPS-BS) and the Family Presence Self-Confidence Scale (FPS-CS) was analyzed using Pearson's correlation test.

RESULTS: The study's participants consisted of 147 nurses. Regarding the FPDR, nurses had a moderately positive perception and level of confidence. Moreover, the level of self-confidence varied significantly by age group and years of experience. The results of the Pearson correlation indicated that there was a significant association between FPS-CS and FPS-BS ($r = 0.221$, $P < .001$). When implementing FPDR, nurses who see more benefits from it are more confident.

CONCLUSION: According to the findings, the nurses who felt more comfortable including patients' families in resuscitation efforts also saw FPDR as having more advantages. FPDR has several effects on the healthcare team providing CPR. Nursing leaders should develop policies for their teams and instruct nurses and other healthcare professionals. Considering the clear benefits of clinical practice and family involvement in resuscitation, it is suggested to give this experience first using simulation and role-playing.

Keywords:

Family presence during resuscitation, family-witnessed resuscitation, nurses' perceptions, self-confidence

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Introduction

Researchers have investigated the presence of families during cardiopulmonary resuscitation (CPR) to determine its benefits and barriers and

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the points of view of healthcare providers, patients, and families, in addition to designing protocols for its implementation benefit.^[1] As some individuals grow in their families to become the first line of support, this care puts the family and community at the center of the medical care system, thus

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enabling a person-focused practice.^[2] Family presence during resuscitation (FPDR) is described as the family or a relative being present at the time resuscitation is being done while maintaining a connection with the patient and the medical staff.^[3]

FPDR is debatable. Many professional health organizations worldwide, such as the Emergency Nurses Association, have suggested that healthcare facilities implement rules and policies that encourage the attendance of families and relatives during CPR. However, this does not consider the nurses' points of view or self-confidence during FPDR. The common opinion among healthcare personnel favors family presence because it provides families a chance to emotionally be present with the patient, thereby alleviating the anxiety of the family.^[4]

In contrast, some nurses and health care professionals feel evaluated and analyzed by the family and relatives, which could cause the nurses and health care professionals to feel discomfort or pressure.^[5] A family's lack of knowledge and misunderstanding of CPR can lead to a high risk of trauma, complaints, and possible interruptions in the procedure.^[5] In addition, family presence would have a substantial effect on the resuscitation process. Safety of the environment, abandoning a resuscitation attempt, psychological distress, and risk of post-traumatic stress disorder on family members are all factors that must be considered.^[6]

Possible explanations for the diverse attitudes of nurses in different countries toward FPDR may be related to religion, cultural differences, and multiple medical models.^[7] Moreover, the nursing staff recognizes the advantages and disadvantages of family presence, and some believe it can possess more risks than benefits. FPDR has attracted the attention of health organizations and hospitals worldwide.^[8] In Saudi Arabian hospitals, performing CPR without the family present or having the option to be present is common practice. In fact, there is no established policy or guideline that specifically supports FPDR or that directs nurses and other healthcare professionals in their practice when considering the option of FPDR.^[9] Also, there are not many studies on FPDR or the nurses' feelings and self-confidence about allowing FPDR in Saudi Arabia.

Many studies on the resuscitation process while family members are present focus on healthcare professionals' perceptions and beliefs without considering the importance of the family's decision and point of view. The integrative review by Toronto and LaRocco (2019) included 12 different studies on families' perceptions of attending the resuscitation process for a relative or loved one. The results found that families believe it is their

natural right to have the option to attend in the event of the resuscitation process for a relative. In addition, a large number of studies (80% out of the 12 included) found that families have a positive perception of this matter and believe this is a right and an option that should be given to them.

The need for novel research is essential. The researchers must determine whether it benefits the nursing staff and their self-confidence about the FPDR process. This study aims to assess the perceptions and feelings of nurses and their self-confidence toward FPDR in the Saudi Arabian community, which would contribute to filling the gap in knowledge and developing a written policy.

Materials and Methods

Study design and setting

The researchers used a cross-sectional correlation descriptive study conducted at King Abdul-Aziz University Hospital (KAUH) in Jeddah, Saudi Arabia, in March and April 2022. In our study, the moderately small effect size was used (0.25) for statistical correlation tests based on Twibell *et al.* (2008).^[10] G*Power software (Erdfelder *et al.*, 2009) was used to calculate the sample size for this study.^[11] We set an alpha of 0.05, a power of 0.80, and a moderately small effect size of 0.25, which suggested the required sample size was at least 120 subjects.

Study participants and sample

The study population included all registered nurses who were working at KAUH. Convenient sampling was used to ensure reaching the target sample. The participants were registered nurses who were working at KAUH in the inpatient and outpatient settings. The inclusion criteria included participants being 18 years or older, having the ability to read English, and being registered nurses in Saudi Arabia. Nursing students and interns were excluded.

Ethical consideration

The researchers obtained ethical approval from the Research Ethical Committee of the Faculty of Nursing at King Abdul Aziz University (Reference No. 2B.27) and the Unit of Biomedical Ethics Research Committee at KAUH No. (HA-02-J-008; Reference No. 141-22). All participants received detailed information about the purpose of the study and the information needed from participants. The participant consent form was obtained before filling out the survey. There was no potential harm to the participants, and their rights were respected and protected. Participation was voluntary and anonymous. All data were confidential.

Study questionnaires

The researchers used the Family Presence Risk-Benefit Scale (FPR-BS) to measure nurses' perceptions of the

benefits and risks of the family's presence during CPR.^[10] It consisted of a 22-item questionnaire in which each item is scored using a Likert scale with a range of 1 to 5 (1 = strongly disagree, 5 = strongly agree), a higher score demonstrating that nurses see FPDR's advantages over disadvantages. It was valid and reliable with a Cronbach's α reliability of 0.96,^[10] The Family Presence Self-Confidence Scale (FPS-CS) contained 17 items that were evaluated by a five-point Likert scale ranging from 1 to 5 (1 = not at all confident, 5 = very confident). It measured nurses' self-confidence with family presence during CPR. A higher score means that nurses were extremely confident in having patients' families present during resuscitation. This scale was developed by Twibell *et al.* (2008).^[10]

Data collection

After obtaining ethics approval, the researcher explained detailed information about this study, its purpose, and the information needed from participants to the nurse managers and asked them to distribute our survey to their staff nurses through professional meetings, email, and daily huddles. After informed consent was obtained, the survey consisted of two parts. Part I involved sociodemographic data, including age, gender, educational level, department work, and years of clinical experience. Part II included answering FPR-BS and FPS-CS.

Data analysis

The researchers used IBM SPSS Statistics 20 software for data entry and analysis in the current study. We used descriptive statistics to present the study's data (including means, SD, frequencies, percentages, and ranges). We used Pearson correlation to examine the relationship between the study's variables. The researcher set an alpha level of significance at 0.05.

Results

The demographic characteristics of the participants are presented in Table 1. A total of 147 nurses from KAUH completed the questionnaire. More of the participants were female (91.2%) than male (8.8%), and more than half were between 25 and 39 years old (57.8%). A total of 42.9% of the participants had experience as registered nurses for 11–20 years. Regarding educational level, almost half of the participants (49.7%) had a diploma degree in nursing. In contrast, a similar number (48.3%) had a baccalaureate degree in nursing, and only (2%) had an advanced degree in nursing. Participants worked in various units; however, most participants (42.9%) worked in noncritical care units. When asked about inviting a family member to be present in a resuscitation attempt, most participants admitted that they had never asked a family member to watch a resuscitation

attempt. (85.7%). Additionally, 80.3% of respondents said they would not allow a family member to be present during a family member's resuscitation, while 19% admitted to being present during a family member's resuscitation attempt.

The mean score of the FPR-BS was 2.81 (SD 0.496; range 1-5). Out of the 22 items on the FPR-BS, the participants agreed on 14 items. They agreed on items about family members' panic or adjusting to a long-term emotional impact while witnessing a resuscitation effort, developing a close relationship with family members, the grieving process, the disruption of having FPDR, and malfunction of the resuscitation team as a result of FPDR. The seven items with which participants disagreed were about FPDR being given as an option to families and the benefits of FPDR to patients, nurses, families, and physicians.

FPS-CS had a mean score of 3.31 (SD = 0.99; range = 1.0–5.0). Participants were very certain about four items; those items were as follows: administering drug therapy during resuscitation, performing electrical therapy during resuscitation, delivering chest compressions, communicating effectively with the health team members, and maintaining the dignity of the patient during resuscitation. The least addressed items by the participants were the following: identifying the spiritual and emotional needs of the family members and coordinating bereavement follow-up with family members after resuscitation.

Our results concluded that most of the nurses did not want the patient's relatives to be there in the room if they were a patient in need of being resuscitated and would not invite a patient's relatives to be present during a resuscitation attempt at BMH. Table 2 indicated that the perception and self-confidence of nurses regarding the FPDR were moderate, and the overall scores on the risk-benefit scale were 61.8. Participants' overall confidence level was 76, which is high. There was a significant difference in the self-confidence level according to age group and years of experience, as appears in Table 3.

The results showed there is a significant difference between the age group ($F = 14.130$, P -value < 0.05) in the self-confidence level and between years of experience groups in the self-confidence level ($F = 8.243$, P -value = 0.00), but there is no significant difference between men and women ($t = -0.875$, P -value = 0.396), between highest degree certificate ($F = 0.060$, P -value = 0.941) and between specialty certification status ($t = 1.489$, P -value = 0.141) in the self-confidence level. There is no significant difference between age group ($F = 0.744$, P -value = 0.528), gender ($t = 0.157$,

Table 1: Demographic characteristics

Variables	Categories	Frequencies	Percentage	
Age	18–24 years old	6	4.1	
	25–39 years old	85	57.8	
	40–55 years old	52	35.4	
	Over 56 years old	4	2.7	
Gender	Male	13	8.8	
	Female	134	91.2	
Experience's years	<1 year	7	4.8	
	1–5 years	19	12.9	
	6–10 years	35	23.8	
	11–20 years	63	42.9	
	>20 years	23	15.6	
Highest's degree certificate	Baccalaureate degree in nursing	71	48.3	
	Diploma degree in nursing	73	49.7	
	Master's degree in nursing	3	2	
Specialty certification	Yes	42	28.6	
	No	105	71.4	
Specialty certification type	Cardiothoracic	3	9.4	
	Endoscopy	2	6.3	
	Midwifery	4	12.5	
	Neonatal intensive care	6	18.8	
	Ortho	3	9.4	
	Pediatric	7	21.9	
	Neonatal resuscitation program	2	6.3	
	Medical surgical	5	15.6	
	Emergency department	8	5.4	
	Non-critical care unit	63	42.9	
Type of unit	Critical care unit	43	29.25	
	Outpatient unit	10	6.8	
	Private unit	5	3.4	
	OB	5	3.4	
	Surgery	4	2.7	
	Other	10	6.8	
	Yes	29	19.7	
	No	118	80.3	
	Have you ever been present in the room during the resuscitation of one of your family members?	Yes	28	19
		No	119	81
How often have you invited a family member to present during a resuscitation attempt at BMH?	<5 times	16	10.9	
	>5 times	5	3.4	
	Never	126	85.7	

Table 2: Total scores on Family Presence Risk–Benefit Scale and Family Presence Self-Confidence Scale for nurses

The axes	Total scores	Percentage	Attitude
Risk-benefit scale	61.8	56.2%	Positive
Self-confidence scale	76	89.4%	Negative
Total questionnaire	118.06	60.5	Positive

P -value = 0.878), years of experience ($F = 0.472$, P -value = 0.756), highest degree certificate ($F = 0.780$, P -value = 0.461), and specialty certification or status ($t = 0.491$, P -value = 0.625) in the risk-benefit level.

Finally, the results of the Pearson correlation indicated that there was a significant association between FPS-CS

and FPR-BS ($r = 0.221$, $P < 0.001$).–benefit According to the findings, nurses who felt more comfortable including patients' families in resuscitation efforts also saw FPDR as having more advantages.

Discussion

FPDR has been proven to have various benefits and drawbacks; however, much of the research that accepted this conclusion focused solely on the family members' view, paying little regard to healthcare workers' perceptions, particularly nurses' perceptions. As a result, the main aim of this research was to assess nurses' attitudes, perceptions, and self-confidence regarding family presence during CPR in Saudi Arabia. The results

Table 3: Factors related to the risk-benefit level and self-confidence scale

	Risk-benefit level		Self-confidence level	
	Statistics	P	Statistics	P
Age	0.744	0.528	14.130	0.000
Gender	0.157	0.878	-0.875	0.396
Experience's years	0.472	0.756	8.423	0.000
Highest's degree certificate	0.780	0.461	0.060	0.941
Specialty certification	0.491	0.625	1.489	0.141

of this study indicated the common ways of thinking and acting among nursing professionals in Saudi culture when confronted with a crisis, even though healthcare facilities employ nurses from various nations who come from diverse backgrounds and, as a result, hold diverse ideas and values. Because this issue has lately attracted the attention of academics, various studies from Korea, Spain, and the United Kingdom have been found to investigate and measure nurses' perceptions and self-confidence regarding FPDR.

The percentage of nurses participating in resuscitation while families were present has fluctuated substantially in prior studies. In this study, our sample size was 147 from one hospital, including all inpatients and outpatient departments. Regarding gender, our results showed that most of the participants were female 91.2% (134 out of 147), similar to other studies, such as those with^[12] 78% female participants (103 out of 137) and^[9] 96% (243 out of 252). More than half of the nurses in this survey (85.7%), like^[13] (61.6%), have never been in a resuscitation attempt with a family member present (10.9%), have less than five times, and a few have more than five times. This is unlike one study by Rahmawati and her colleagues in 2021, where 60% of the participants attended at least one resuscitation procedure while a family member was present¹. This research concluded that nurses who felt more confident about their ability to involve the patient's family members during resuscitation also thought FPDR had more advantages, which is the same as in the previous study. Also, a total of 80.3% indicated that they refused to have a family member present while they were being resuscitated. Consistent with the findings in this study and previous studies, having membership in a professional nursing association and board certification were linked to increased perceived advantages and self-confidence and a greater ability to deal with risks.^[14] Participants with Advanced Cardiac Life Support training demonstrated stronger self-confidence in their performance during FPDR. Administering drug therapy during resuscitation (33.3%), performing electrical therapy during resuscitation (37%), delivering chest compressions (69%), communicating effectively with the health team members (52%), and maintaining

the dignity of the patient during resuscitation (63%) were the items that participants were somewhat confident about. However, identifying the spiritual and emotional needs of the family member and planning grief follow-up with family members after resuscitation were the items least addressed by the participants.^[4] Nevertheless, the analysis indicated that most nurses want their family members in the room if they are being resuscitated. They do not want to invite a family member to be present during a resuscitation effort. A similar pattern of results was obtained in the critical review of 18 different studies, most of which were retrospective survey studies. Most of the investigations were descriptive in nature. The findings revealed that both good and negative effects of family involvement during adult resuscitation are perceived by accident and emergency health care workers and nurses, with their perspectives suggesting that there were more hazards and risks than benefits.^[15] Other results were broadly in line with the previous ones, which Walker in 2019 indicated among healthcare professionals regarding FPDR.^[16] Despite the fact that the evidence currently available indicates this practice has no adverse effects on patients, family members, or CPR procedures.

With continuous training and education, the perception of healthcare professionals of FPDR may improve, making them more comfortable with FP and enhancing the possibility that they will allow FPDR. FPDR-enforced hospitals must develop an educational interventional program based on the theoretical evidence for FPDR, which makes nurses more likely than they are now to view FPDR as a patient and family right.^[17]

This study enhanced FPDR-related scientific research and evidence-based practice, which has major consequences for healthcare providers, patients, and patients' families. It is critical not to undervalue the emotional impact held by healthcare workers. Reporting terrible news and offering psychological support to bereaved families are two areas that should be addressed.

Our findings cannot be applied to anyone other than the survey participants. The nurses who participated in the study came from just one of Saudi Arabia's over 218 hospitals. As a result of the limited nonprobability sample ($n = 147$), it is unlikely to be appropriate to apply it to all Saudi hospitals. Other healthcare workers, including doctors and respiratory therapists, are essential in resuscitation efforts but did not participate in our research. A diverse range of healthcare professionals should be included in future investigations. Because respondents in our study had the option of completing the survey online, one participant may have completed it

numerous times. In future studies, a question on whether participants completed more than one survey variant should be included.

Conclusion

Focusing on and showing the effects on nurses' perception and self-confidence and those of other health care professionals during CPR is an essential matter that needs to be addressed. The family's presence during CPR could have advantages or disadvantages on both sides. Our findings demonstrated that FPDR intention was significantly influenced by both attitudes toward allowing it and perceptions of family presence during CPR. Furthermore, our findings showed that nurses who felt more comfortable including patients' families in resuscitation efforts also saw FPDR as having more advantages. On the FPR-BS, the participants agreed with the frustrating emotional impact of long-term effects or panic that family members experience during and after resuscitation attempts. The participants disagreed about giving FPDR as an option to families or whether it benefits patients, their families, or health care providers. Educational programs must be created to improve understanding of FPDR from the health care professionals, patients, and patients' families' perceptions, facilitating the change in attitudes toward FPDR among healthcare professionals. To implement a policy about the family's presence during CPR in Saudi Arabia, it is important to promote the use of consensus among medical professionals. Considering both the benefits and drawbacks of the FPDR, efforts to institutionalize it through the use of documents like written policies and guidelines are also required to create a system of care for patients' families during CPR.

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Author contributions

A.A., S.A., M.B., S.A., S.A.A., A.T., M.A.: conceptualization and methodology; A.A., S.A., M.B., S.A., S.A.A.: data curation, investigation, and validation; A.A., S.A., M.B., S.A., S.A.A.: writing—original draft preparation; A.T., M.A.: writing—reviewing and editing and supervision. All authors have read and agreed to the published version of the manuscript.

Institutional review board statement

The study was conducted according to the guidelines of the Declaration of Helsinki and approved by the Research Ethical Committee of the Faculty of Nursing at King Abdul Aziz University (Reference No. 2B.27) and

the Unit of Biomedical Ethics Research Committee at KAUH No. (HA-02-J-008; Reference No. 141-22).

Informed consent statement

Informed consent was obtained from all subjects involved in the study.

Data availability statement

Data used and analyzed in this study will be promptly available for the publisher upon request.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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