Original Article

Revista de Enfermagem do Centro-Oeste Mineiro
2023; 13/4745
www.ufsj.edu.br/recom

RECOM
Revista de Enfermagem do Centro-Oeste Mineiro

Family presence during cardiopulmonary resuscitation and invasive procedures: nursing and medical students' perception

Presença da família durante ressuscitação cardiopulmonar e procedimentos invasivos: percepção de estudantes de enfermagem e medicina

Presencia de la familia durante reanimación cardiopulmonar y procedimientos invasivos: percepción de los estudiantes de enfermería y de medicina

ABSTRACT

Objective: To verify the factors associated with nursing and medical students' perception regarding family presence during cardiopulmonary resuscitation and/or invasive procedures. **Methods**: A descriptive and cross-sectional study was conducted with 105 nursing and medical graduates from three Brazilian universities. Data were collected from May to August 2021 by means of an online form, and analyzed using descriptive and inferential statistics. **Results**: Most participants were against family presence. Theoretical or practical contact with family-centered care, wanting to accompany a family member under care, and believing that family presence is a right and would authorize it during professional practice were factors associated with more favorable perceptions. **Conclusion**: Students should learn about family-centered care in graduation so that they can develop more favorable perceptions about family presence during resuscitation and/or invasive procedures.
Descriptors: Emergency; Emergency Medicine; Emergency Nursing; Family; Students.

RESUMO

Objetivo: verificar os fatores associados à percepção de estudantes de enfermagem e medicina quanto à presença da família durante a ressuscitação cardiopulmonar e/ou procedimentos invasivos. **Métodos**: estudo descritivo e transversal realizado com 105 concluintes dos cursos de enfermagem e medicina de três universidades brasileiras. Os dados foram coletados entre maio e agosto de 2021, por meio de formulário on-line e analisados a partir da estatística descritiva e inferencial. **Resultados**: a maioria demonstrou ser contrária à presença familiar. Estiveram associados a percepções mais favoráveis: desejar acompanhar o atendimento de familiar, acreditar que a presença é um direito da família e que autorizaria essa presença durante a prática profissional, bem como o contato teórico ou prático com o cuidado centrado na família. **Conclusão**: sugere-se que durante a formação os estudantes aprendam sobre o cuidado centrado na família para desenvolver percepções mais favoráveis acerca da presença familiar na ressuscitação e/ou procedimentos invasivos.
Descritores: Emergências; Medicina de Emergência; Enfermagem em Emergência; Família; Estudantes.

RESUMEN

Objetivo: verificar los factores asociados a la percepción de los estudiantes de enfermería y de medicina sobre la presencia de la familia durante la reanimación cardiopulmonar y/o procedimientos invasivos. **Métodos**: estudio descriptivo y transversal realizado con 105 egresados de las carreras de enfermería y de medicina de tres universidades brasileñas. Los datos se recolectaron entre mayo y agosto de 2021 mediante un formulario en línea, y para su análisis se utilizó la estadística descriptiva e inferencial. **Resultados**: la mayoría se mostró en contra de la presencia de la familia. Las percepciones favorables estuvieron relacionadas con: querer acompañar la atención familiar, creer que la presencia es un derecho de la familia y que durante la práctica profesional la autorizaría, así como el contacto teórico o práctico con el cuidado centrado en la familia. **Conclusión**: se sugiere que, durante la formación, los estudiantes aprendan sobre el cuidado centrado en la familia para que puedan desarrollar percepciones más favorables sobre la presencia de la familia en la reanimación y/o procedimientos invasivos.
Descriptores: Emergencia, Medicina de Emergencia; Enfermería de Urgencia; Familia; Estudiantes.

Ana Laura Dutra Queruz[1]
0000-0003-3715-2748

Samarah Rafaela Bevilaqua[2]
0000-0002-1815-7503

Larissa da Silva Barcelos[2]
0000-0002-0982-8213

Mara Cristina Ribeiro Furlan[2]
0000-0003-3227-7074

Isabela Zara Cremoneze[3]
0000-0002-6463-6257

Mayckel da Silva Barreto[3]
0000-0003-2290-8418

[1]Cesumar University, Maringá, PR, Brazil.

[2]Federal University of Mato Grosso do Sul, Três Lagoas, MS, Brazil.

[3]State University of Maringá, Maringá, PR, Brazil.

Corresponding author:
Mayckel da Silva Barreto
E-mail: msbarreto@uem.br

INTRODUCTION

Cardiopulmonary resuscitation (CPR) and/or invasive procedures – such as chest or abdominal drainage, insertion of central catheters and probes, orotracheal intubation, among others – are triggered by clinical or traumatic situations of serious damage to health, thus requiring immediate and qualified professional care[1]. Most of the time, such situations cause emotional distress to the patient and his/her family members[2], because families are configured as true systems, where changes in the dynamics of a member impact all individuals[3]. Nonetheless, the family is understood to be an integral part of the health-disease process of its members, and is indispensable when it comes to the treatments of chronic[4] and acute conditions[5-6].

On the other hand, in urgent and emergency situations, family members or friends are usually excluded from the care context and, when present, are ignored, since all attention is focused on the patient[7]. This occurs due to the traditional hegemonic model of care, focused exclusively on the disease and the patient, sustained by the discourse of unpredictability of the clinical prognosis and the need for rapid interventions by the health team[6]. Thus, family participation during emergency care is still not widespread in health care services, nor is it systematically taught and/or stimulated in the educational process of health courses[8-9].

It is known that humanization and integral health care for patients and their families are challenging themes to be addressed in health services and during professional training, especially for physicians and nurses[9]. However, nowadays there is a growing discussion among researchers and health professionals about the presence of the family during emergency care[5-6]. Scientific evidence has pondered that, despite the possibility of exposure to unpleasant experiences and distress, when they are at the bedside and witness the complex action of health professionals, the family tends to understand the cases in which the family member cannot be saved in a more empathetic way. Ultimately, this leads to a sense of comfort and satisfaction with the care provided, which minimizes anxiety, depression and post-traumatic stress disorder, thus facilitating the preparation of the mourning process[5-6,10].

At this juncture, one can find the philosophy of family-centered care (FCC), which aims to define the quality of care provided to the individual and his/her family, considering their opinions and autonomy in relation to health needs[11]. FCC includes in its guidelines the right of the family to participate in the care of the patient at all levels of complexity, including critical and emergency care[11]. Even so, health professionals in various parts of the world point to the presence of family members as a limiting factor for their performance, because they believe that there is the possibility of interruption and even aggressiveness on the part of the accompanying family members[6].

Accordingly, it is evident in clinical practice that most professionals do not favor family presence during CPR and/or invasive procedures in patients of all age groups[12-13]. In particular, health professionals with less time of training believe more strongly that family presence can be detrimental to their abilities and performance, thus negatively influencing the care[14]. It is believed that such conduct of rejection of family presence may be partly a reflection of the academic training process and the health care model, focused on professional demands and diseases.

Thus, in view of the divergence between the opinion of health professionals in emergency services and researchers in the area, there is a need for further studies on the theme. Moreover, this study was carried out considering that many aspects of professional approach are shaped during academic training and that no studies were found to identify the perception of nursing and medical students about family presence in CPR and/or invasive procedures. The objective of this research was to verify the factors associated with the nursing and medical students' perception of family presence during CPR and/or invasive procedures.

METHODS

Multicenter, descriptive, cross-sectional study with a quantitative approach, carried out with nursing and medical students attending the last academic year from the State University of Maringá (UEM); from the Cesumar University (Unicesumar) and the Federal University of Mato Grosso do Sul (UFMS), Três Lagoas Campus (CPTL). These institutions were selected due to convenience of access by the researchers. In order to guide the construction of this study, the Strobe tool was used[15].

UEM is a public higher education institution (HEI), maintained by the government of the state of Paraná, located in the city of Maringá, which offers 44 vacancies per year for the nursing course and 40 for the medical course, both full-time. Unicesumar, also located in the city of Maringá, is configured as a private HEI and offers 40 vacancies per year for the nursing course, morning or evening shifts, and 100 vacancies per year for the medical course, full-time. The CPTL of UFSM, located in the city of Três Lagoas, is a federal public HEI and offers 60 vacancies per year for the medical course and 40 for the nursing course, both full-time.

The academics of the two courses regularly enrolled in the last year, over 18 years of age and who had access to the internet and electronic devices, such as cell phone, tablet, notebook or computer to answer the online questionnaire, were invited to participate in the study. These criteria led to a universe of 239 potential participants, where students who, after three successive invitation mailings, did not answer the questionnaire were excluded, leaving 105 participants, which represents a response rate of 43.9%.

Data collection took place between May and August 2021 by means of an online questionnaire in Google Forms format. The invitation to participate in the study, with the link to access the questionnaire, was sent individually to the academics, through institutional e-mail provided by the coordinators of each course. In the invitation, it was made explicit to the potential participant that, before answering the questions available in the virtual environment, they were asked to read the Free and Informed Consent Form (FICF) and agree to participate in the research.

The questionnaire applied was divided into three parts and included: 1) personal and sociodemographic profile; 2) previous knowledge and perception about family presence during CPR and/or invasive procedures; and 3) instrument to measure the students' attitudes, beliefs and perceptions about family presence during CPR and/or invasive procedures, adapted by the authors from an instrument available in the literature[16-17].

This study used an adaptation of a public domain instrument that is available in its entirety in the publication that presents it to the scientific community[16]. However, authorization was requested from the authors to use it. The original instrument was adapted, since it focused on understanding the perception of health professionals about the presence of the family in the emergency care of patients with deteriorating health status, whereas the adaptations converged to seek to understand the perception of students about the presence of the family exclusively during CPR and/or invasive procedures. After adaptation, the new instrument was sent to three nursing faculty members and three medical faculty members, all with doctoral degrees, so that they could analyze the content and form before application. There was consensus in terms of recognizing that it was understandable and would allow the objective of the study to be achieved.

The instrument comprises five perspectives that should be considered regarding family presence during CPR and/or invasive procedures, namely: patient, care, family, health care team and personal beliefs about the topic. The answers consist of a Likert-type scale (0 – not sure; 1 – fully disagree/never; 2 –disagree/seldom; 3 – agree/often; 4 – fully agree/always), whose sum varies from 0 to 85 points. The questions are worded positively or negatively to reduce

the chances of mechanical responses occurring. When analyzed, the question scores were weighted so that higher scores were attributed to positive attitudes toward family presence. Accordingly, the higher the mean score on the scale, the greater the participant's agreement with the practice of family presence.

The data were treated and processed in Excel spreadsheets, and means, medians, proportions and amplitudes were calculated for the construction of tables, which allowed us to characterize the participants as well as to identify relevant information to reach the study objectives. Descriptive statistics and tests were used to make comparison of means, applying Student's T test or analysis of variance (Anova), since the Shapiro-Wilk normality test showed normal distribution of data. The analyses were performed using Excel and R computer programs. A p value of <0.05 was considered significant.

As for ethical aspects, it is noteworthy that this research was developed in line with Resolution 466/2012, issued by the National Health Council, and its complementary norms, in order to preserve the participants and the confidentiality of the information provided. The project was approved by the Ethics Committee for Research with Human Beings of UFMS (Opinion nº 4.827.862) and UniCesumar (Opinion nº 4.469.534).

RESULTS

A total of 105 students participated in the study, being the majority from a nursing course (60.9%), public university (53.3%), female gender (75.2%), up to 23 years old (50.5%), white (68.7%) and who reported having religion (77.1%). There was no significant difference in the means between the different groups, as can be observed in Table 1.

Table 1 – Distribution of the participants' profile, according to the mean, standard deviation, range and median obtained. Maringá, PR, and Três Lagoas, MS, Brazil, 2021.

Variables	n (%)	Mean	Standard deviation	Range	Median	P-value
Course						
Nursing	64 (60.9%)	27.0	0.8	33	27	0.0704*
Medical science	41 (39.1%)	30.5	1.7	44	29	
HEI						
Public	56 (53.3%)	29.8	9.3	41	29	0.1167*
Private	49 (46.7%)	27.1	7.6	42	27	
Gender						
Male	26 (24.8%)	27.9	7.8	35	27	0.3710*
Female	76 (75.2%)	29.9	10.5	40	29	
Age						
Up to 23 years	53 (50.5%)	27.2	7.9	41	27	0.1611*
24 or over	52 (49.5%)	29.5	9.0	40	28,5	
Race/color						
Yellow	04 (3.8%)	31.5	10.3	24	29	0.2533‡
White	72 (68.7%)	27.8	8.4	41	27	
Black	03 (2.9%)	21.3	1.5	02	22	
Brown	26 (24.8%)	30.2	8.8	40	29	
Religion						
Yes	81 (77.1%)	28.5	8.2	41	28	0.8348*
No	24 (22.9%)	28.0	9.5	38	26.5	

HEI – higher education institution; *Student's T-test; †Anova test.

Source: authors' data collection.

In Table 2, it is possible to observe that most students "agreed" or "fully agreed" that the presence of family members during CPR and/or invasive procedures interrupts (40.9%) or interferes with patient care (64.7%); prevents the team from communicating freely (58%); can lead the family to misinterpret the activities carried out by health professionals (83.8%); and can lead to complaints about the quality of care (79%).

Table 2 – Distribution of answers regarding the students' attitudes, beliefs and perceptions about family presence. Maringá, PR, and Três Lagoas, MS, Brazil, 2021.

Questions	Fully disagree	Disagree	Not sure	Agree	Fully agree
Effects on patient care					
1. The presence of family members during CPR interrupts patient care.	11 (10.5%)	30 (28.6%)	21 (20.0%)	31 (29.5%)	12 (11.4%)
2. The presence of family members during CPR interferes with patient care.	05 (4.7%)	19 (18.1%)	13 (12.4%)	43 (40.9%)	25 (23.8%)
3. The presence of family members during CPR would prevent the team from communicating freely.	09 (8.6%)	26 (24.8%)	09 (8.6%)	38 (36.2%)	23 (21.8%)
4. The presence of family members during CPR makes it more difficult for the team to carry out its work.	05 (4.7%)	19 (18.1%)	15 (14.2%)	42 (40.0%)	24 (22.8%)
5. If present during CPR, the family may misinterpret the professionals' activities.	01 (0.9%)	07 (6.6%)	09 (8.6%)	50 (47.6%)	38 (36.2%)
6. Family presence during CPR may lead to complaints about the quality of care.	01 (0.9%)	08 (7.6%)	13 (12.4%)	52 (49.5%)	31 (29.5%)
Effects on the patient					
7. Patients may feel unable to express their true feelings (care plans) with the family present.	03 (2.8%)	13 (12.4%)	27 (25.7%)	42 (40.0%)	20 (19.0%)
8. Having the family present during CPR will cause increased levels of anxiety for the patient.	12 (11.4%)	21 (20.0%)	34 (32.4%)	18 (17.1%)	20 (19.0%)
9. Having your family during CPR will cause increased levels of stress for the patient.	10 (9.5%)	23 (21.9%)	31 (29.5%)	20 (19.0%)	21 (20.0%)
Effects on the family					
10. Witnessing CPR is emotionally traumatic for the patient's family.	02 (1.9%)	06 (5.7%)	17 (16.2%)	39 (37.1%)	41 (39.0%)
11. Witnessing the patient's CPR is stressful for the patient's family.	01 (0.9%)	02 (1.9%)	09 (8.6%)	53 (50.5%)	40 (38.1%)
Effects on the professional					
12. I would experience an increased level of anxiety with the presence of family members during CPR.	03 (2.5%)	15 (14.2%)	15 (14.2%)	48 (45.7%)	24 (22.8%)
13. I would experience an increased level of stress with the presence of family members during CPR.	02 (1.9%)	12 (11.4%)	17 (16.2%)	49 (46.6%)	25 (23.8%)
Personal beliefs about the future practice	**Never**	**Seldom**	**Not sure**	**Often**	**Always**
14. Family presence during CPR would occur in my practice.	11 (10.5%)	31 (29.5%)	36 (34.3%)	20 (19.0%)	07 (6.6%)
15. Families would be encouraged to be present during CPR in my practice.	25 (23.8%)	41 (39.0%)	20 (19.0%)	14 (13.3%)	05 (4.7%)
16. If family members are not present during CPR, I will make an effort to locate them and offer the option to be present.	33 (31.4%)	30 (28.6%)	29 (27.6%)	11 (10.5%)	02 (1.9%)
17. I would feel confident to provide psychosocial and spiritual support to family members during a patient's CPR.	17 (16.2%)	23 (21.8%)	24 (22.8%)	32 (30.5%)	09 (8.5%)

CPR – cardiopulmonary resuscitation.

Source: authors' data collection.

Many students pointed out that they were "not sure" about the inability of the patient to express his/her feelings regarding the care plan with the presence of the family (25.7%); and whether this presence would cause anxiety (32.4%) or stress (29.5%) in the patient. Nonetheless, they revealed "agree" or "fully agree" that the presence of the family can be emotionally traumatic (76.1%) or cause stress (88.6%) among family members, as well as anxiety (68.5%) and stress (70.4%) in professionals.

Finally, regarding personal beliefs, 40% of the students revealed that family presence during care would "never" or "seldom" occur in their practice. In addition, the majority revealed they would "never" or "seldom" encourage family presence (62.8%) and/or make an effort to invite the family (60%), and only 38% would "always" or "often" feel confident to psychosocially and spiritually support the patient's family.

A small portion of the students reported having had theoretical and/or practical contact with the FCC philosophy during their training (21%). However, the mean was significantly higher in this group (29.9 versus 25). In addition, the highest means were found among the students who believed that the family has the right to accompany the resuscitation for both adult (*p=0*) and pediatric (*p=0.04*) patients, just as the highest means occurred among those who would allow the family to be present during CPR for adult (*p=0*) and pediatric (*p=0*) patients.

Moreover, the majority (71.4%) believe that the decision about family presence during cardiopulmonary resuscitation should be made by health professionals alone. Although only 34.3% reported that they would want to accompany their own family member's CPR and/or invasive procedures, the mean was significantly higher in this group (30.8 versus 27.1) (Table 3).

Table 3 – Factors associated with students' perception regarding family presence during CPR and/or invasive procedures. Maringá, PR; Três Lagoas, MS, Brazil, 2021.

Variables	n (%)	Mean	Standard deviation	Range	Median	P-value
Contact with FCC						
Yes	22 (21.0%)	29.9	8.8	44	28	0.0465†
No	83 (79.0%)	25.0	1.5	24	23.5	
Right to family accompaniment*						
Yes	52 (49.5%)	30.6	9.3	41	29	0.0084†
No	53 (50.5%)	26.2	7.1	40	26	
I would allow the family to be present*						
Yes	56 (53.3%)	30.9	9.3	41	24	0.0006†
No	49 (46.7%)	25.4	6.4	39	26	
Right to family accompaniment†						
Yes	58 (55.2%)	29.8	9.3	41	27.5	0.0455†
No	47 (44.8%)	26.6	7.0	39	27	
I would allow the family to be present†						
Yes	57 (54.2%)	30.6	9.3	41	29	0.0024†
No	48 (45.8%)	25.7	6.6	39	26	
Decision about family presence						
Professionals	75 (71.4%)	27.4	7.9	44	27	0.1445‡
Family/patient	11 (10.5%)	29.0	9.9	33	27	
Professionals and family/patient	19 (18.1%)	31.7	9.6	34	30	
You would accompany your family member's care						
Yes	36 (34.3%)	30.8	9.3	34	29	0.0307†
No	69 (64.7%)	27.1	7.8	44	27	

FCC – family-centered care; *it is related to cardiopulmonary resuscitation and invasive procedures in adult patients; †it is related to cardiopulmonary resuscitation and invasive procedures in pediatric patients; †Z mean test; ‡Anova test.
Source: Authors' data collection.

DISCUSSION

Most graduating nursing and medical students who participated in this survey are against the presence of the family in CPR and/or in invasive procedures, which is similar to what has been found in several studies conducted with health professionals. In the United States, for example, it was found that only 36.9% of the 195 physicians, nurses and physical therapists in a university hospital were in favor of family presence in the emergency room during CPR[18]. In Iran, of the 178 nurses interviewed, 62.5% disagreed with family presence in CPR of adult patients, since they perceived many disadvantages to the practice[19].

Analogously, an investigation conducted in Jordan with 136 nurses working in the emergency room revealed that the majority considered the presence of family members during emergency care of adult patients as negative. Nevertheless, 97.7% stated that they did not have any experience in terms of inviting or having a family member present during care[20]. It is odd that health professionals are adamant in their negative stance about family presence, but they do not have practical experience or even theoretical contact to support and justify this stance.

In this study, there was no significant difference in the perception of medical and nursing students. From the health professionals' point of view, historically physicians, guided by concerns related to the quality of CPR, potential additional stress to staff during care, possible lawsuits and psychological burden to family members, are more resistant to family presence compared to nurses[21-22]. In addition, a North American study involving 195 physicians showed that they perceived more risks than benefits, and more than two-thirds reported feeling anxious about managing the cardiopulmonary arrest patient under family accompaniment[23]. However, a recent study with 79 nurses and 67 physicians in a Bahraini hospital showed that physicians were more supportive to family presence compared to nurses[13]. The authors suggest that these results may be related to cultural characteristics of the region, but point out that further research needs to be conducted to clarify why physicians are more permissive than nurses in that locality.

In this study, among the factors associated with the most positive perception of students regarding family presence, there was the desire to accompany the family member's care. The literature shows that health professionals have different opinions, realizing that presence is configured as a right of either the family or the team, and that there is also a third group that understands it as a right of the team, but that if the family member needs care, it would become a right of the accompanying family member[10]. This demonstrates the existence of personal and professional conflicts that should be worked on in order to promote among professionals the understanding that family opinion should also be considered in the decision of whether or not to allow the family to be present.

Through the data collected, it is possible to infer that the students' perceptions may be related to the academic training, since those who had contact with FCC had more favorable perceptions about family presence. In this sense, there is a need to consider that health education is still based on the biomedical model, which focuses only on the individual patient and not on the family context, characterized by: unicausal explanation of the disease, biologicism, fragmentation, mechanicism, nosocentrism, recovery, rehabilitation and technicism[8]. However, it is noteworthy that this is not an exclusive reality in Brazil. A study conducted in Australia with focus groups of intensivist nurses showed that their academic training was considered inadequate to prepare them to deal with the complex care needs of families, especially in the moments before and after the death of patients[24].

National curricular guidelines for nursing and medical courses elaborated by the Brazilian Ministry of Education (MEC, as per its Portuguese acronym) emphasize that training should

be based on humanized care, with emphasis on health-disease and family[8-9]. However, the current study indicates that contact with the FCC theme was minimal among students. Similarly, a study carried out with 395 North American critical care nurses showed that having received education about family presence during CPR was considered a key predictor for more positive perceptions and invitation to families by health professionals[25]. Therefore, the importance of including the theme in the pedagogical projects of undergraduate and graduate courses should be emphasized, in order to provide a more holistic and humanized professional practice.

CONCLUSION

Most graduating medical and nursing students were against family presence during CPR and/or invasive procedures. Sociodemographic characteristics were not associated with the outcome, but having theoretical and/or practical contact with the CCF philosophy, understanding that family presence is a right of both adult and pediatric patients' families, and stating that, during their professional practice, they would authorize family presence, if requested by both types of families, were items that were associated with more favorable perceptions of family presence. Similarly, the fact of wishing to accompany the family member's care was associated with the outcome.

Finally, it is highlighted the need to create spaces for discussion and implementation of health training actions that encompass FCC and the theme of family presence in the emergency care environment, in order to change the training scenario and, subsequently, the care practice, in such a way as to prioritize FCC. Additional research is recommended to evaluate the results of this modification in the academic training of nurses and physicians.

Despite the important results identified in this study, its limitations should be considered. The first one refers to the fact that the instrument used to measure the students' beliefs, attitudes and perceptions about family presence was based on another instrument that had not been previously applied to the Brazilian population for validation purposes. Nevertheless, the thorough analysis of form and content by evaluators allowed us to identify that the instrument was understandable and would allow us to reach the objective proposed in this investigation. In addition, the current study is limited by the fact that the sample was by convenience and the response rate was approximately 44% of the potential participants, which may attribute a selection bias, since the respondents could have some prior interest in the research theme. Accordingly, it indicates the need for caution in terms of comparing these findings with other investigations.

REFERENCES

1. Bernoche C, Timerman S, Polastri TF, Giannetti NS, Siqueira AW, Piscopo A, et al. Atualização da diretriz de ressuscitação cardiopulmonar e cuidados cardiovasculares de emergência da sociedade brasileira de cardiologia: 2019. Arq Bras Cardiol. 2019;113(3):449-663. DOI: 10.5935/abc.20190203.

2. Barreto MS, Garcia-Vivar C, Dupas G, Matsuda LM, Marcon SS. La ausencia familiar en la atención de urgencia conlleva sufrimiento en pacientes y familiares. Enferm Intensiva (Engl Ed). 2020;31(2):71-81. DOI: 10.1016/j.enfi.2019.03.003.

3. Leahey M, Wright LM. Application of the calgary family assessment and intervention models. J Fam Nurs. 2016;22(4):450-9. DOI: 10.1177/1074840716667972.

4. Martins MM, Rodrigues ML. Diabetes: adesão ao tratamento e o papel da família a essa nova realidade. Revista de Atenção à Saúde. 2019;17(59):95-102. DOI: 10.13037/ras.vol17n59.5838.

5. Twibell R, Siela D, Riwitis C, Neal A, Waters N. A qualitative study of factors in nurses' and physicians' decision-making related to family presence during resuscitation. J Clin Nurs. 2018;27(1-2):e320-34. DOI: 10.1111/jocn.13948.

6. Barreto MS, Peruzzo HE, Garcia-Vivar C, Marcon SS. Family presence during cardiopulmonary resuscitation and invasive procedures: a meta-synthesis. Rev Esc Enferm USP. 2019;53:e03435. DOI: 10.1590/s1980-220x2018001303435.

7. Barreto MS, Marcon SS, Garcia-Vivar C, Furlan MC, Rissardo LK, Haddad MD, et al. Decidindo "caso a caso" a presença familiar no serviço de atendimento emergencial. Acta Paul Enferm. 2018;31(3):272-9. DOI: 10.1590/1982-0194201800039.

8. Benedetto MA, Gallian DM. Narrativas de estudantes de medicina e enfermagem: currículo oculto e desumanização em saúde. Interface Comun Saúde Educ. 2018;22(67):1197-207. DOI: 10.1590/1807-57622017.0218.

9. Vilas-Bôas lM, Daltro MR, Garcia CP, Menezes MS. Educação médica: desafio da humanização na formação. Saúde Redes. 2017;3(2):172-82. DOI: 10.18310/2446-4813.2017v3n2p172-182.

10. Toronto CE, LaRocco SA. Family perception of and experience with family presence during cardiopulmonary resuscitation: an integrative review. J Clin Nurs. 2018;28(1-2):32-46. DOI: 10.1111/jocn.14649.

11. Franck LS, O'Brien K. The evolution of family-centered care: from supporting parent-delivered interventions to a model of family integrated care. Birth Defects Res. 2019;111(15):1044-59. DOI: 10.1002/bdr2.1521.

12. Gutysz-Wojnicka A, Ozga D, Dyk D, Mędrzycka-Dąbrowska W, Wojtaszek M, Albarran J. Family presence during resuscitation: the experiences and views of Polish nurses. Intensive Crit Care Nurs. 2018;46:44-50. DOI: 10.1016/j.iccn.2018.02.002.

13. Abuzeyad FH, Elhobi A, Kamkoum W, Bashmi L, Al-Qasim G, Alqasem L, et al. Healthcare providers' perspectives on family presence during resuscitation in the emergency departments of the Kingdom of Bahrain. BMC Emerg Med. 2020;20(1):69. DOI: 10.1186/s12873-020-00365-4.

14. García RMC, García IC. Analysis of the programs for the presence of family members in the extrahospital cardiorrespiratory stop in adult patient. Enferm Glob. 2021];(64):687-99. DOI: 10.6018/eglobal.442371.

15. 15. Cuschieri S. The STROBE guidelines. Saudi J Anaesth. 2019;13(Suppl 1):S31-4. DOI: 10.4103/sja.SJA_543_18.

16. Youngson MJ, Currey J, Considine J. Family presence during management of acute deterioration: clinician attitudes, beliefs and perceptions of current practices. Australas Emerg Nurs J. 2016;19(3):159-65. DOI: 10.1016/j.aenj.2016.05.001.

17. Youngson MJ, Considine J, Currey J. Development, reliability and validity of a tool, to measure emergency department clinicians' attitudes towards family presence (FP) during acute deterioration in adult patients. Australas Emerg Nurs J. 2015;18(2):106-14. DOI: 10.1016/j.aenj.2014.12.002.

18. Martin A, Quinteros M, Upadhyay S. Family presence during resuscitation: perceptions and attitudes of health-care staff at an inner-city academic hospital. Chest. 2016;150(4):947A. DOI: 10.1016/j.chest.2016.08.1049.

19. Zali M, Hassankhani H, Powers KA, Dadashzadeh A, Rajaei Ghafouri R. Family presence during resuscitation: a descriptive study with Iranian nurses and patients' family members. Int Emerg Nurs. 2017;34:11-6. DOI: 10.1016/j.ienj.2017.05.001.

20. Hayajneh FA. Jordanian professional nurses' attitudes and experiences of having family members present during cardiopulmonary resuscitation of adult patients. Crit Care Nurs Quart. 2013;36(2):218-27. DOI: 10.1097/cnq.0b013e31828414c0.

21. Omran S, AL Ali N, Alshahrani H. Acute care nurses' attitudes toward family presence during cardiopulmonary resuscitation in the Kingdom of Saudi Arabia. Clin Nurs Stud. 2015;3(3):69-75. DOI: 10.5430/cns.v3n3p69.

22. De Robertis E, Romano GM, Hinkelbein J, Piazza O, Sorriento G. Family presence during resuscitation: a concise narrative review. Trends Anaesth Crit Care. 2017;15:12-6. DOI: 10.1016/j.tacc.2017.06.001.

23. Twibell RS, Siela D, Neal A, Riwitis C, Beane H. Family presence during resuscitation. Dimens Crit Care Nurs. 2018;37(3):167-79. DOI: 10.1097/dcc.0000000000000297.

24. Bloomer MJ, Morphet J, O'Connor M, Lee S, Griffiths D. Nursing care of the family before and after a death in the ICU: an exploratory pilot study. Aust Crit Care. 2013;26(1):23-8. DOI: 10.1016/j.aucc.2012.01.001.

25. Powers KA. Family presence during resuscitation. Dimens Crit Care Nurs. 2018;37(4):210-6. DOI: 10.1097/dcc.0000000000000304.

Responsible editors:
Patrícia Pinto Braga | Chief editor
Mariana Bueno | Scientific editor

Note: There was no funding from a development agency.

Received in: 27/05/2022
Approved in: 08/01/2023

How to cite this artiticle:
Queruz ALD, Bevilaqua SR, Barcelos LS, et al. Family presence during cardiopulmonary resuscitation and invasive procedures: nursing and medical students' perception. Revista de Enfermagem do Centro-Oeste Mineiro. 2023;13:e4745. [Access____]; Available in:_____. DOI: http://doi.org/10.19175/recom.v13i0.4745