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EMPIRICAL RESEARCH QUANTITATIVE

Nurses' views on the presence of family members during invasive procedures in hospitalised children: A questionnaire survey

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Abstract

Aims and Objectives: (I) To identify the opinion and practices of nursing professionals regarding the presence of family members during invasive procedures in hospitalised children; (II) to determine the knowledge of nursing professionals about the patient- and family-centred care model.

Background: Family presence in invasive procedures benefits the patient and their relatives, but varied attitudes exist among healthcare personnel, with some being favourable and others unfavourable toward family presence.

Design: Observational, descriptive, cross-sectional study.

Methods: Study population: Nurses from paediatric critical care services, emergency services, hospital wards, day hospitals and outpatient clinics at a Catalan tertiary hospital who participated voluntarily between September 2021 and July 2022. Data collection instrument: A questionnaire prepared by the researchers, based on the literature and reviewed by experts. REDCap link with access to the questionnaire was sent out to potential respondents through the institutional email. Bivariate analysis was performed with the R 4.2 program. The study was approved by the hospital's Clinical Research Committee and participants gave informed consent before responding to the questionnaire.

Results: A total of 172 nurses participated, and 155 valid responses were obtained. All respondents consider the family as a key element in paediatric care and report inviting family members to participate in the care given to their child. However, 12.0% of nurses do not invite the family to be present in invasive procedures. Almost all respondents note the need for training to acquire communication skills and improve the management of emotions.

Conclusions: The results show a favourable opinion towards the presence of family members and highlight the need to train nurses to develop communication skills.

Relevance to clinical practice: The data provided can favour the design of measures to improve and promote the presence of parents during invasive procedures, reinforcing the patient-and family-centred care model and improving the quality of care provided. One example is the creation of family care protocols where the inclusion of parents and the roles of each individual involved in the care process appears.

KEYWORDS
child care, family, family presence, hospitalised child, invasive procedures, nursing, nursing family, paediatrics

1 | INTRODUCTION AND BACKGROUND

Patient- and family-centred care (PFCC) is a holistic care model that sees the child and their family as a whole, placing particular emphasis on their bio-psycho-social well-being. PFCC posits that the family is the main source of support for the child (Bulut & Calik, 2020; Committee on Hospital Care and Institute for Patient-And Family-Centered Care, 2020). The concept of PFCC emerged in the second half of the 20th century. It produced a change in the relationship established between healthcare professionals and patients, shifting away from a model that placed the healthcare provider at the centre of the process to one in which patients actively intervene in their care. In the paediatric field, the model was established in 1970 through the implementation of the Platt report (Platt, 1959), which stressed the need to protect hospitalised children and their families, thus producing a revolution in the care of hospitalised children (Bulut & Calik, 2020; Dudley et al., 2015; Mark, 2020).

The PFCC model supports the presence of a child's family members. It promotes their active and collaborative involvement in the child's care. They should be present, during rounds of visits and invasive procedures (IP) as well as cardiopulmonary resuscitation (CPR) (Bulut & Calik, 2020; Mark, 2020). This new paradigm is upheld by the European Charter of the rights of children in hospital (European Parliament, 1986). The PFCC stresses that practitioners must not only accept the presence of the family (PF) but also actively promote and facilitate the participation of family members in the planning, development and evaluation of the care hospitalised children, and specifically in IP and CPR (Bulut & Calik, 2020; Palomares González et al., 2023). Understanding IP as any diagnostic and/or therapeutic procedure that implies an 'invasion' or penetration into the body, with a needle, a probe or another type of device (Palomares González et al., 2023).

The presence of the family during IPs lowers the child's levels of anxiety, fear and pain (Hashavya et al., 2023). In the family, it also alleviates anxiety, improves communication and increases trust between the family and the health personnel and, in the case of unsuccessful CPR, it helps in the grieving process (Çamur & Sarıkaya Karabudak, 2020; Franck & O'Brien, 2019). This presence must be facilitated by health staff; that is, the nurse or doctor must accompany the families in this process (Ponthier et al., 2020).

Despite the acknowledged benefits, the practices of health staff do not always encourage the presence of family during IPs. A study

What does this paper contribute to the wider clinical community?

- This project will generate data to support the creation of protocols. These guidelines should emphasise the importance of mutual decision-making and emotional support from family members. They recommend training nurses to assist family members, providing specific instructions regarding the permitted number of family members present and clarifying the roles of each individual involved in the care process.
- The results also highlight the need to provide additional training for nursing staff in order to improve family-and patient-centred care and to encourage the presence of the family in the day-to-day life of the hospitalised child.

Impact

What problem has the study addressed?

The need to assess nurses the opinions and practices regarding the presence of family members during procedures involving hospitalised children.

What are the main results?

More than half of the nurses know the bases of the patient- and family-centred care model, although only 61.0% invite relatives to be present during invasive procedures. Areas in need of improvement include nurses' communication skills and the legal vacuum regarding the presence of the family in invasive procedures.

Where and on whom will the research have an impact?

On patients and their families, favouring the humanisation of care in paediatric hospitals and thus improving the quality of care overall; on health professionals, expanding their knowledge of the subject and changing their perspective on care.

carried out in Spain reported that 82.0% of professionals always or occasionally work with parents, but that 18.0% do not allow family members to be present (Palomares González et al., 2023). In other geographical areas, the rates of professionals who do not support PF during IPs are higher, reaching 56.8% (Bulut & Calik, 2020). Opinions also vary according to professional category: a European-level study found that nurses were more likely to allow the presence of family (Fulbrook et al., 2017), but a study in Spain found that it was doctors who were most in favour, with nurses remaining neutral on the issue (Palomares González et al., 2023). The main reasons for restricting the access of relatives are the increased stress that their presence may entail for the physicians and nurses performing the procedure, and their negative emotional responses, such as the fear that the procedure may be prolonged, and the anxiety caused by their lack of familiarity with the procedure being carried out (De Mingo-Fernández et al., 2022; Dingeman et al., 2017; Ponthier et al., 2020). In addition, a 'hierarchy of invasiveness' has been reported, according to which healthcare professionals are more likely to support the presence of parents in less invasive procedures (Dingeman et al., 2017; Meert et al., 2013; Palomares González et al., 2023; Ponthier et al., 2020).

Other authors have identified factors that favour PF in IPs and CPR, including academic training (McLean et al., 2016; Meert et al., 2013; Ponthier et al., 2020; Ramage et al., 2018). Training courses for critical care unit nurses are currently being developed in order to improve their practices towards family participation and to raise their self-confidence (Cornell & Powers, 2022). In this connection, simulation programmes are being created to boost professionals' confidence, reduce work stress, strengthen teamwork and enhance their communication skills (McLean et al., 2016; Pye et al., 2010).

In accordance with the tenets of the PFCC, the presence of the family during IPs involving hospitalised children must be encouraged. In addition, the literature shows that this practice has major benefits for both the child and the relatives. However, little is known about the opinions of health professionals regarding PF and its impact on their daily practices in, both, specialised unit and in the ward. Most of the literature focuses on the perspective of the family and the children. Among the few studies that have analysed the experience of nurses, most are centred on nurses in specialised units, such as paediatric/neonatal critical care units and emergencies.

Against this background, the aims of this study were (I) to identify the opinion and practices of nursing professionals regarding the presence of family members during invasive procedures in hospitalised children; (II) to determine the knowledge of nursing professionals about the patient- and family-centred care model.

2 | METHOD

2.1 | Design

A cross-sectional descriptive study was carried out via the application of an online survey. The STROBE guidelines for observational studies (Von Elm et al., 2008) were followed (see Appendix S1).

2.2 | Setting and participants

The study was carried out at the Children's Hospital at the Vall d'Hebron Hospital Campus in Barcelona, Spain, between September 2021 and July 2022. This hospital is an international reference centre in paediatrics and treats all paediatric medical specialties, guaranteeing continuity of care and applying a multidisciplinary approach. All nurses working in paediatric critical care, emergency services, hospital wards, day hospitals, and outpatient services ($n = 453$) were invited to take part in the study. The inclusion criteria considered were having a contractual relationship with the hospital and participating voluntarily. Retirement criteria were not considered. Being an accessible study population, no prior calculation of the sample size was carried out with the specific objective of covering the entire population and obtaining a comprehensive knowledge of the subject.

The data collection process was initiated, and while the total number of responses did not reach the entire population of 453 nurses, the study still surpassed the minimum requirement of 141 surveys. This ensured a 95% confidence level with a 3% margin of error, based on a proportion of 50%, as calculated by calculator.net.

2.3 | Instrument

The data collection instrument was a questionnaire designed by three of the researchers (L.V.; AA; EZ), all of them experts on the topic and research methodology, specifically for the study. Its design was developed in two stages.

Phase 1: The initial stage consisted of selecting pertinent domains identified through a comprehensive literature review focused on three main thematic areas: (1) the PFCC model (Bulut & Calik, 2020; Dudley et al., 2015); (2) opinions and practices of professionals towards IPs (Meert et al., 2013; Ponthier et al., 2020); and (3) the experience of hospitalised children and their relatives (Çamur & Sarıkaya Karabudak, 2020; Franck & O'Brien, 2019). From the analysis of the main themes extracted from the studies reviewed, six areas of interest were identified that were used as dimensions in the questionnaire: (1) the patient- and family-centred care model, (2) the presence of relatives, (3) invasive procedures, (4) feelings and practices of the nursing staff, (5) the effects of the presence of family on the hospitalised children (the term 'children' is used to refer to children and young people) on the relatives themselves and (6) the standardisation of practices. The identification of the domains and the initial group of items was generated by the research team. During discussions with the group, several items were removed, rewritten, and added.

Phase 2: To determine the content validity of the items, the think-aloud technique was used. In this approach, a panel of experts participated in interviews where they read the items aloud and expressed their thoughts and responses in the process. During the interview, the experts discussed their interpretations and response processes, and if they had doubts, the interviewer asked them questions about the reformulation or interpretation of the items. The questionnaire was finally structured into six dimensions with a total of 68 specific questions, which are described below:

Dimension 1. The patient- and family-centred care model (13 items) with the objective of determining the health professional's knowledge about the model.

Dimension 2. The presence of family members (4 items) to obtain information about the nurses' behaviours regarding the family's inclusion and participation during invasive procedures.

Dimension 3. Invasive procedures (15 items), with the purpose of identifying the procedures (complex or otherwise) in which the nurse allows the presence of family members.

Dimension 4. Feelings, opinions and implications for practice (11 items) to obtain information regarding nurses' degree of acceptance of PF or their resistance towards it.

Dimension 5. The effects of PF in hospitalised children on the family members themselves (16 items) so as to quantify nurses' opinions regarding the potential effects on family members when they are present during invasive procedures.

Dimension 6. Standardisation of the practice of allowing PF during invasive procedures (6 items), so as to assess nurses' perspectives on various aspects related to regulatory needs, legal considerations, training requirements and the need for organisational consensus.

All items were formulated as positive statements on a 5-point Likert scale. For dimensions 1, 4, 5 and 6, participants indicated their level of agreement (1 = total disagreement to 5 = total agreement) with the statements, while for dimensions 2 and 3, they evaluated their frequency (1 = never to 5 = always). There were also three open-ended questions designed to enrich understanding of the study by recording specific suggestions and comments made participants (see Appendix S2).

A 14-question form was added in order to collect sociodemographic data: sex (female, male); age (years); marital status (single, married, divorced and widowed); having a child (yes, no); academic qualification (degree, postgraduate; master degree/paediatric nurse practitioner qualification (PNP qualification)/doctorate); length of employment as a paediatric nurse (years); personal experience with hospitalised children (yes, no).

A pilot test was carried out to evaluate the comprehensibility of the questionnaire. The respondents completed the questionnaire in 10 min.

2.4 | Data collection

The study was presented to the nursing management body and the unit supervisors requesting their cooperation for collecting the institutional emails of members of the nursing staff. The questionnaire was sent out between September 2021 and July 2022. An email was also sent explaining the purpose of the study, along with a consent form that respondents were required to sign prior to participation and a link to the questionnaire through the REDCap platform (Harris et al., 2009). Participants were given 2 weeks to answer the questionnaire and reminders were sent out to those who did not respond within the scheduled time.

2.5 | Data analysis

The REDCap application was used to manage the questionnaire. Incomplete responses were removed from the analysis. A descriptive analysis of the data was performed with frequency and percentage distributions. The relationship between the questionnaire items and sociodemographic variables was analysed using non-parametric tests: the Kruskal–Wallis H test for quantitative variables and the Chi-squared test for categorical variables. A confidence level of 95% was assumed in all tests. All analyses were performed with R 4.2.0 (R Core Team., 2020). For open responses, a thematic analysis was performed.

2.6 | Ethical considerations

The study was approved by the Clinical Research Ethics Committee of the Vall d'Hebron University Hospital, of Barcelona, PR(AMI)86/2021, and was conducted in accordance with the Declaration of Helsinki. This research has been carried out following the Biomedical Research Law 14/2007.

Participation was voluntary and anonymous (Harris et al., 2009). The participants signed the informed consent form before completing the survey. The processing, communication and transfer of personal data of all participating subjects complied with legal regulations set out in EU Regulation 2016/679 of the European Parliament and of the Council of 27 April 2016 on Data Protection (RGPD), guaranteeing confidentiality at the level of protection in accordance with the current legislation of our country.

3 | RESULTS

A total of 172 nurses (38%) participated. During data processing, 17 did not present complete answers to all the items, and so the final sample comprised 155 participants (34.5%).

In all, 92.9% ($n = 144$) of the participants were women and 60.7% ($n = 94$) were aged between 26 and 40 years old. Regarding academic training, 72.2% ($n = 112$) had completed studies beyond their university degree: 61.9% ($n = 96$) had a master's degree, PNP qualification or a doctorate and 10.2% ($n = 16$) a postgraduate degree. Respondents' sociodemographic characteristics and employment data are listed in Table 1.

The first section of the following results responds to the second proposed objective. However, for greater clarity, the results are shown according to the six dimensions that make up the structure of the questionnaire:

3.1 | Patient and family-centred care model

64.0% ($n = 99$) of the participants stated that they knew the bases of the PFCC model, while 14.0% ($n = 22$) said that they did not know of it. 93.0% ($n = 144$) agreed that the model should be promoted

TABLE 1 Sociodemographic characteristics of the nurses ($n = 155$).

Characteristics	*n*	%
Sex		
Female	144	92.9
Male	11	7.1
Age (years)		
<25	18	11.6
25–30	41	26.5
31–35	35	22.6
36–40	18	11.6
41–50	19	12.3
51–60	20	12.9
>60	4	2.6
Marital status		
Single	94	60.6
Married	55	35.5
Divorced	5	3.2
Widow/er	1	0.7
Children		
Yes	60	38.6
No	95	61.3
Academic qualification		
Degree[a]	43	27.7
Postgraduate	16	10.3
Master Degree/PNP qualification[b]/ Doctorate	96	61.9
Years working a paediatric nurse		
<5	45	29.4
5–10	46	30.1
11–30	52	34.0
>30	10	6.5
Personal experience of paediatric hospitalisation		
Yes	74	47.7
No	81	52.3

[a]Degree qualifies for the exercise of the nursing profession.
[b]Paediatric nurse practitioner qualification.

and implemented in paediatric units. Likewise, 99.0% ($n = 154$) of the nurses regarded the family as an important resource in the care process and believed that family members should play an active role (98, 0%, $n = 152$). 88.0% ($n = 136$) saw involving the family in care as an essential part of their work. The responses differed significantly depending on the number of years worked: the group with 5–10 years of work experience were more familiar with the model ($p = 0.016$) and involved the family more in the care of the patients ($p = 0.027$).

61.0% ($n = 96$) of the nurses believe that the family should always be invited to be present during any technique and 69.0% ($n = 197$) believe that they should be included in decision-making. The figures for these two items (familiarity with the model and support for the participation of families) were significantly higher in nurses with a master's degree, PNP qualification and/or doctorate ($p = 0.016$). For 67.0%–68.0% ($n = 105$) of the participants, the decision to allow the presence of the family depends on the relatives' attitude, the patient and the degree of invasiveness of the procedure: the proportions of those who feel that the presence of the family increases or reduces the workload are similar (27.0%, $n = 42$ vs. 29.0%, $n = 45$). The results of this section are summarised in Figure 1.

In the open question, 82 participants gave their opinions on the factors that influence the decision to allow the presence of the family. The answers are divided into four categories and several codes: factors related to the family (the right to decide, emotional state and level of knowledge), to the patient (age, clinical stability and general attitude), related to the technique (site, duration and complexity) and related to professionals (confidence, their bond with the family and opinion).

3.2 | Presence of the family (PF)

Practically all nurses (99.9%, $n = 154$) reported explaining the type of care the child will receive to the families. Meanwhile, 92.0% ($n = 143$) invite the family to participate in the care of their child, but 12.0% ($n = 19$) do not invite relatives to be present during invasive procedures. No significant differences were found according to the variables years worked and academic training. The results regarding the frequency with which PF is allowed are found in Figure 2.

3.3 | Invasive procedures

To establish how often respondents, allow PF, they were asked to answer with regard to the performance of specific invasive procedures. It was found that the more complex and invasive the procedure, the less likely staff are to allow PF (Figure 3). For example, 96.0% ($n = 149$) of nurses allow PF during nasopharyngeal aspirate collection and 95.0% ($n = 147$) during the extraction of capillary blood. However, in more complex procedures such as the insertion or removal of a central catheter, only 59.0% ($n = 92$) of nurses allow PF. In the most invasive procedures, permission is granted only on very rare occasions. Only 35.0% of nurses ($n = 54$) allow PF in extubation, while the figure falls to 10.0% ($n = 16$) in intubation. Additionally, only 27.0% of nurses ($n = 42$) permit PF for lumbar puncture.

During the survey, participants were asked to name other procedures in which they would allow PF. Sixty-three nurses responded and mentioned the following procedures:

- Administration of medication: 100% of the nurses allow PF in this procedure.

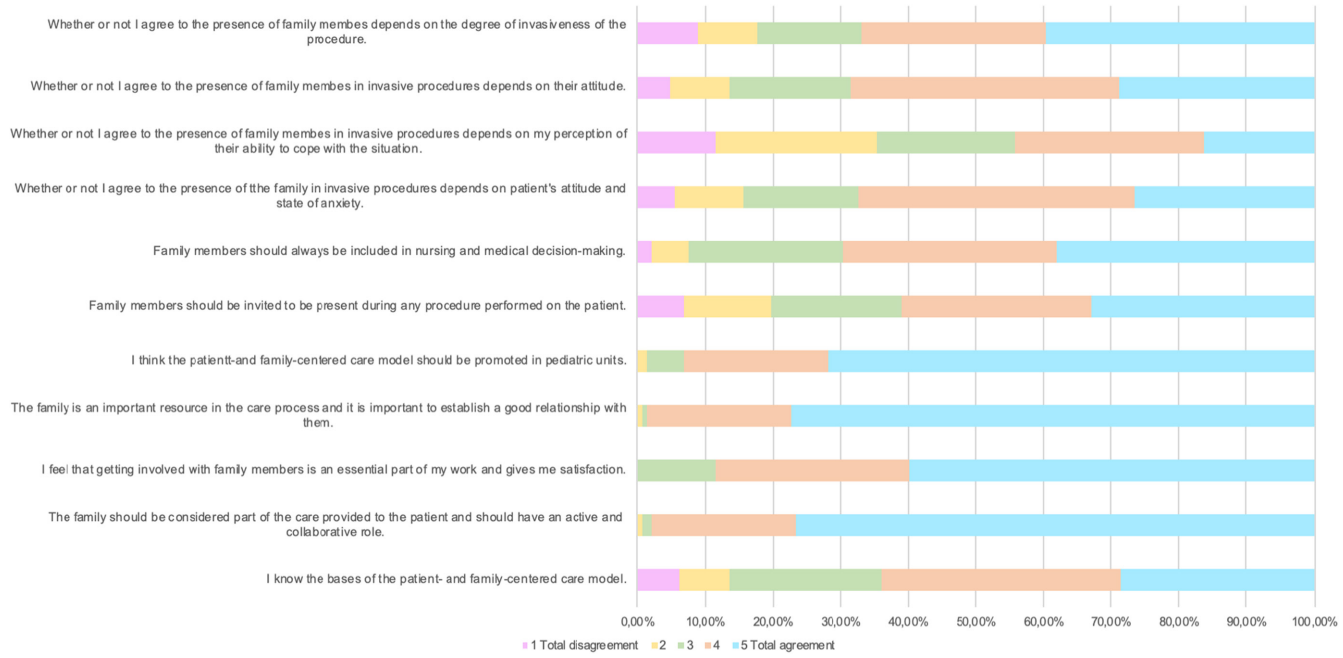

FIGURE 1 Knowledge and opinions about patient and family-centred care model.

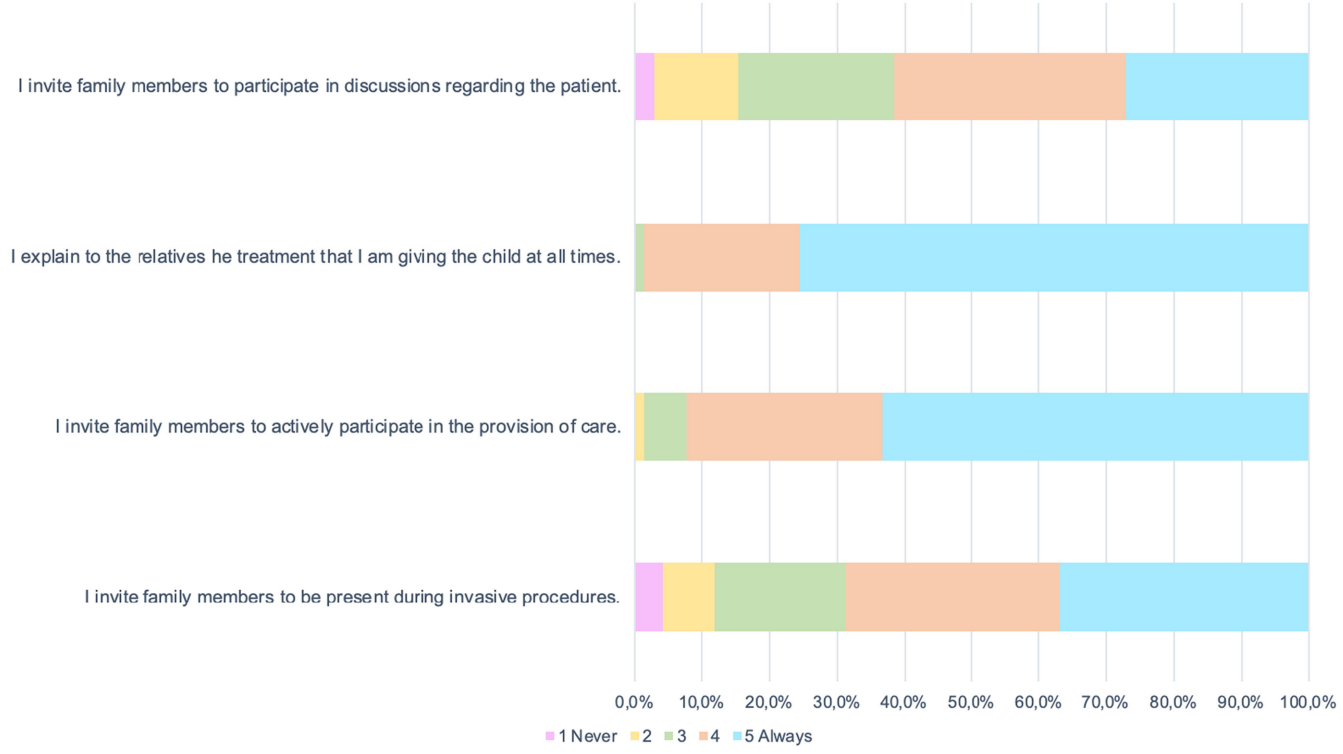

FIGURE 2 Frequency with which presence of the family in paediatric units.

- Patient hygiene: In most cases, nurses allow PF during patient hygiene.
- Tracheostomy dressing: In almost all cases, nurses allow PF during tracheostomy dressing.
- Central venous line change: In almost all cases, nurses allow PF during central venous line change.

3.4 | Feelings and opinions of nurses

57.0% ($n = 89$) of participants feel that PF does not affect the way invasive procedures are performed. 40.0% ($n = 62$) state that PF makes them feel that they were being scrutinised, while 38.0% ($n = 59$) believe that it slows down the procedures. In addition, 35.0% ($n = 54$)

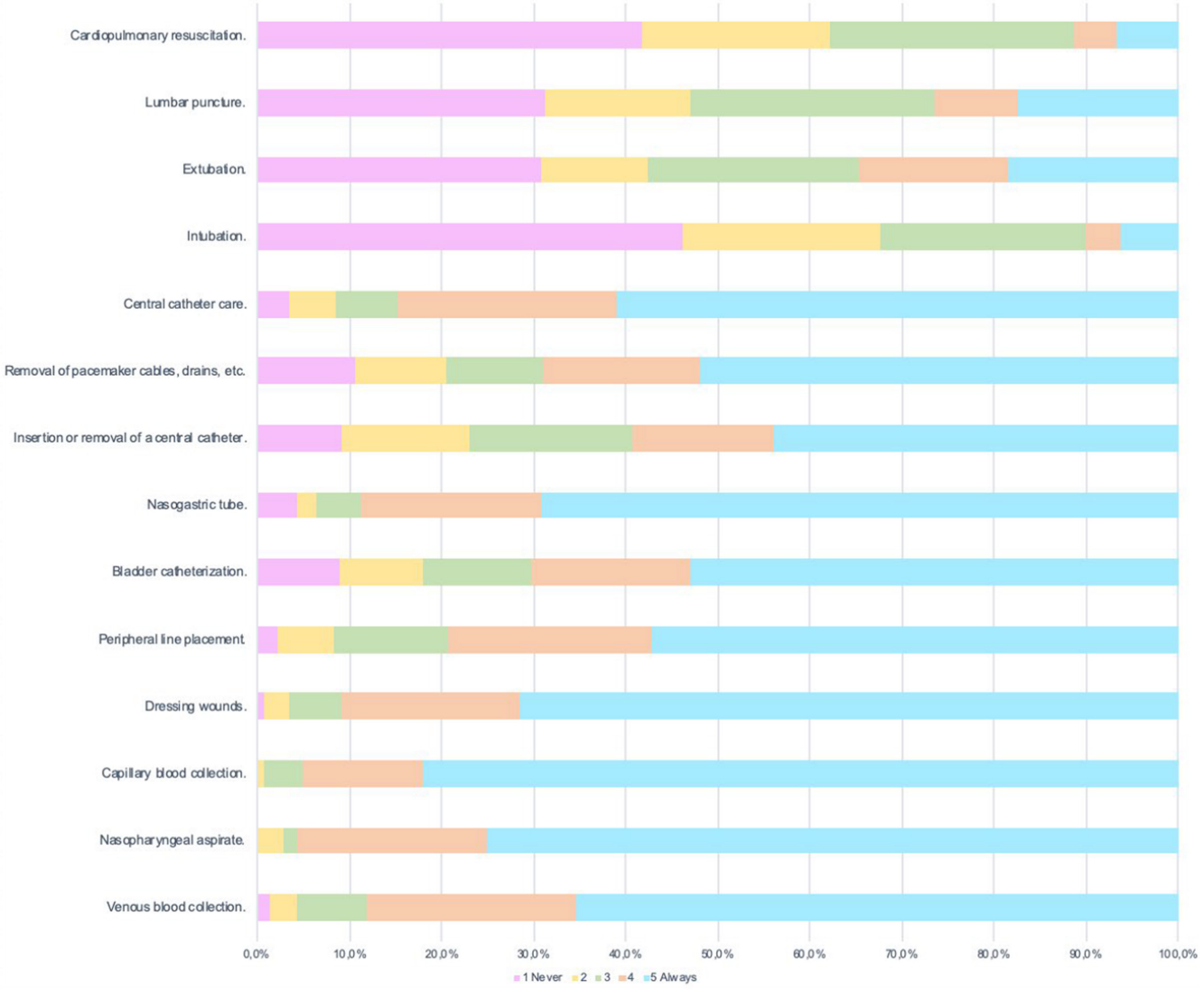

FIGURE 3 Frequency with which presence of the family in the following procedures in paediatric units.

feel under increased pressure due to PF. Interestingly, nurses' impressions of this last aspect vary significantly depending on their years of work experience, since the group with more than 30 years of work perceive more pressure ($n=62$, 40.0%, $p=0.046$).

31.0% ($n=48$) of nurses feel that PF affected their confidence while performing IPs, especially in the group with university and postgraduate academic training ($n=67$, 43.0%, $p=0.032$). However, 43.0% ($n=67$) of the participants remain neutral on this aspect.

3.5 | Effects of PF on the child and the family

Regarding the effects produced by the presence of the family on the hospitalised children, 81.0% ($n=126$) believe that the child feels more accompanied and safer if the family is present. This impression is particularly strong among the nurses with a master's degree, PNP qualification and doctorate ($n=136$, 88.0%, $p=0.035$). In contrast, 46.0% ($n=71$) believe that PF makes the child more nervous during procedures. Similarly, 53.0% ($n=82$) express concern that the child's excessive attention to the family might hinder the ability of medical staff to perform procedures accurately. In addition, 41.0% ($n=64$) of participants think that children are more demanding when the family is present. We stress that 30.0% ($n=47$) of the nurses remain neutral with regard to the aspects just mentioned, and that no significant differences were found for the variables years worked and training.

As regards the family, 74.0% ($n=115$) of nurses consider that PF in invasive procedures improves the family's understanding of the technique, with a significant difference in the master's degree, PNP qualification and doctorate group ($n=127$, 82.0%, $p=0.019$). Furthermore, 73% ($n=113$) believe that PF helps relatives to understand the situation experienced and improves their ability to cope with the patient's illness; the opinion of the master's degree, PNP qualification and doctorate group is particularly favourable ($n=98$,

63.0%, $p=0.025$). The data that were statistically significant for this dimension are shown in Table 2.

3.6 | Standardisation of the practice

In all, 79.0% ($n=123$) of the participants see the need to protocolise and standardise PF, and 59.0% ($n=92$) believe, to varying degrees, that there is a legal vacuum. 89.0% ($n=138$) of nurses would welcome a standardised policy on PF throughout the hospital, especially those with between 10 and 30 years of work experience ($n=147$, 95.0%, $p=0.042$).

46.0% ($n=72$) of nurses believe that the procedures in which the family may be present should be limited. However, 20.0% ($n=31$) remain neutral on this issue. The participants with more years of work experience and/or university (58.0%, $n=90$) and postgraduate studies (64.0%, $n=99$) are more likely to advocate limiting PF.

Finally, 84.0% ($n=130$) of respondents highlight the importance of training to help professionals develop the skills needed to manage these situations, above all in the group with 5–10 years of work experience ($p=0.014$).

When asked to make proposals for improvement, a large part of the respondents, 84.0% ($n=130$), advocate training for nurses in communication skills and in the management of emotions, as well as training and the provision of information for family members with regard to the situation they are experiencing. They also stress the importance of the presence of a professional to accompany the family members and to explain to them what is happening.

In the section of open questions asking for proposals for improvements, 76 nurses made suggestions. Seven groups emerged:

- Regarding space: promote comfortable, air-conditioned, friendly and large spaces.
- Regarding the family: prepare and inform parents before carrying out a procedure; answer their questions; and agree on the best way for them to collaborate. Also, help relatives to manage the negative emotions that arise the situation.
- Regarding the patient: assess the clinical situation and bear in mind the age of the child.
- Regarding communication: promote a good environment, put aside a sufficient amount of time; improve communication with other professionals; encourage assertiveness.
- Regarding training: provide continuous training for professionals related to communication and procedures.
- Regarding the protocol: design a standardised protocol to help deal with situations of conflict and ensure that the same criteria are applied.
- Regarding other proposals for improvement: promote care areas; ensure that a professional accompanies parents and explains what is happening; increase the nurse–patient ratio.

4 | DISCUSSION

This study aims to trace the opinion and practices of nursing professionals regarding the issue of the presence of family members during invasive procedures on hospitalised children, and to determine the

TABLE 2 The opinion of nurses about the family experience according to educational level.

Item	Degree Md [IQR][b]	Postgraduate Md [IQR][b]	Master degree/PNP qualification[a]/doctorate Md [IQR][b]	*p* value[c]
It improves their understanding of the technique.	4 [3,4]	4 [3,4]	4 [4,5]	**0.019**
It reduces the anxiety caused by the child's admission to hospital and health status.	3 [3,4]	3′5[3,4]	4 [3, 5]	**0.025**
It helps them to better understand the situation and the illness.	4 [3,4]	4 [3,4]	4 [4, 5]	**0.025**
It improves the coping and mourning of family members regarding the patient's illness.	4 [3, 4]	4 [3, 4]	4 [3, 5]	0.07
The procedure can be traumatic for family members.	4 [3,4.8]	3 [3,4]	3 [3,4]	0.133
Witnessing the procedure causes stress and anguish in family members.	4 [4,5]	3 [3,4]	4 [3,5]	**<0.001**
Family members feel more useful and more satisfied during IPs.	4 [3,4]	4 [3,4]	4 [3,4]	**0.029**
It improves the skills of family members with regard to providing care themselves.	4 [3,5]	3.5 [3,4]	4 [3,5]	0.088
It improves the skills of family members for subsequent home care.	4 [3.2,5]	4 [3,4]	4 [4,5]	0.103
It increases their trust in healthcare staff.	4 [3,5]	4 [3,4]	4 [3,5]	0.114

[a]PNP qualification: Paediatric nurse practitioner qualification.

[b]Md [IQR]: Median (Interquartile Range).

[c]*p* value: Bold values show the difference is statistically significant.

knowledge of nursing professionals about the patient- and family-centred care model. The results show that the majority of nurses are well acquainted with this model and believe that the family should be invited to be present during any procedure performed on their child. These results reflect a marked trend towards a more inclusive and patient-oriented vision in the field of health care and are consistent with other studies. A study in Turkey showed that 43.5% of the nurses and doctors interviewed support the idea of allowing PF during IPs in hospitalised children (Bulut & Calik, 2020). The trend is highest in the United States, where a Clinical Practice Guideline Review indicated that 77.0% of professionals believe that the family must have the opportunity to be present, and 61.4% believe that PF is a right of the family and of the sick (Vanhoy et al., 2019). However, in other countries or contexts, the values are lower. For example, in Iran (Zali et al., 2017) and Spain (Asencio-Gutiérrez & Reguero-Burgos, 2017), more than half of the respondents (62.5% and 64.1%, respectively) had a negative view of PF during IPs, although in both cases the group with more professional experience was less disapproving. These contrasts in the opinions and practices of health professionals regarding PF in invasive procedures raise interesting questions about the influences of cultural aspects and professional experience. In our study, more than half of the nurses believe that the family should always be invited to witness any procedure.

Interestingly, our results corroborate those of previous research conducted in various countries, such as the US and Europe, where nurses exhibit a widespread acceptance of this practice (McLean et al., 2016; Vanhoy et al., 2019). The comparison with studies carried out in other contexts not only highlights the consistency in the opinions of nurses across the world but also highlights the need to explore and address the significant differences that exist in the application of these perspectives in different hospital setting.

In relation to the decision to permit PF in various procedures, our results are consistent with the findings of international research. It has been observed that PF is more widely permitted during less invasive procedures (capillary blood sampling, venipuncture, insertion of a urinary catheter and/or nasogastric tube, intramuscular injection, wound sutures) (Bulut & Calik, 2020; Palomares González et al., 2023). It is less often permitted (or prohibited) in more invasive procedures such as lumbar puncture, central venous catheter placement, extubation and/or intubation. So our results bear out the theory of a hierarchy of invasiveness (Azak et al., 2022; Ponthier et al., 2020; Vanhoy et al., 2019). The limitation of PF in more complex procedures is due to various factors, among which the opinions and feelings of the nursing professional stand out. Few studies have analysed how nurses feel when carrying out a procedure with the family at the bedside (De Mingo-Fernández et al., 2022; Ponthier et al., 2020). Our study reveals that some participants feel evaluated, pressurised and insecure when carrying out techniques or procedures with the family present, a situation that may generate stress. This view coincides with other studies that identify stress, anxiety and the risk of legal problems with family members as obstacles to PF (De Mingo-Fernández et al., 2021; Palomares González et al., 2023; Ponthier et al., 2020). However, it has been observed that nurses with specific training in this area perceive fewer risks for themselves and the patient, and recognise more benefits for the patient and for the family (McLean et al., 2016). In our study, we found training to be a key feature in many of the related items, although no significant differences were recorded.

In relation to the impact on hospitalised children, our participants' responses indicate that PF provides the patient with a feeling of greater company and security. This finding is agreement with results from other research that highlight these benefits (Sharp et al., 2023; Wong et al., 2019). Furthermore, nurses with a master's degree, PNP qualification and/or doctorate expressed a more favourable opinion towards PF, suggesting that advanced training can influence their perceptions of this practice for the better. We associate this trend with the increased knowledge and confidence that these former students derive from their studies, underlining the key role of continuing education in the training of nursing staff. Other authors have found that PF reduces the sensation of pain among children during the procedure (Erdoğan et al., 2020; Ponthier et al., 2020).

Regarding the impact of family presence on the family itself, a considerable part of the nurses surveyed maintain that it improves the family's understanding of the situation experienced and their ability to cope with it, and helps them understand the technique performed. These responses reveal a significantly higher impact in the group with master's, doctorate or PNP qualification and in the group with less than 10 years' work experience, suggesting that the increased sensations of security and self-confidence in these professionals may have a positive influence on their practices of PF. This conclusion is in agreement with previous research that highlights how PF reduces family anxiety and stress, improves attachment and facilitates the procedure (Al Mutair et al., 2013; Ponthier et al., 2020; Sharp et al., 2023).

Nevertheless, the views recorded in the literature are conflicting, with certain professionals contending that the involvement of family members in invasive procedures may increase psychological trauma (Tíscar-González et al., 2021). This inconsistency underscores the intricate nature of individual experiences of PF during such procedures. Furthermore, a significant number of nurses in our project emphasise this aspect.

In a quantitative study in which questionnaires were administered to families, 67.4% of parents highlighted that their presence reduced the child's anxiety and worry (Zali et al., 2017). This result underlines the importance of considering families' preferences and perceptions in the design of policies and practices related to PF. It has also been shown that the negative feelings experienced by the family member such as anxiety, stress and pain can be allayed to some extent by the opportunity to be present (Jabre et al., 2013).

Lastly, it is worth noting the discrepancy between the opinions of professionals and the protocolised practices in health centres regarding PF in invasive procedures. At the hospital where the study was carried out, there are no protocols, recommendations or intra-hospital agreements concerning the presence of the family in these situations. On the other hand, our results reveal the professionals' opinions of the need for a uniform approach throughout the health

centre, especially among those with 10–30 years' working experience. This circumstance can be explained by the provision of training and the paradigm shift that has occurred in our hospital, where projects have been underway for a number of years now promoting the humanisation of care.

These results find support in the review of the literature, which points to the lack of protocols and agreements regarding family presence and a reliance on the discretion of healthcare personnel to decide whether it should be allowed in invasive procedures (Ferreira et al., 2014). Likewise, many of the nurses who responded (especially those with 10–30 years experience) stressed that good training in communication and the management of emotions was essential, as other authors have suggested (Al Mutair et al., 2013; Ferreira et al., 2014; Palomares González et al., 2023; Ponthier et al., 2020; Sharp et al., 2023).

Effective examples of practical training programmes have been reported in the literature; for example, participation in simulations has been shown to reduce the stress perceived by professionals in relation to PF during IPs (Bordessoule et al., 2022).

Finally, the results of our research and of other reports stress the need for professionals, to establish institutional policies and agreements that define specific measures to ensure and promote care for the family during IPs. These actions involve determining when and how to promote the inclusion of the family in all procedures, ranging from the least complex to cardiopulmonary resuscitation (Al Mutair et al., 2013; Bordessoule et al., 2022; Ferreira et al., 2014; Tíscar-González et al., 2021). Comparison with other studies highlights the need for a more systemic and normative approach to ensure the effective implementation of family presence in healthcare.

4.1 | Strong points and limitations

This study has several limitations. The exclusive use of the care units at a single hospital might be considered to limit the generalisation of the results to other settings. However, the demographic characteristics and employment records of the nurses in this study are similar to those of other hospitals in public networks in Spain and Europe. To an extent, then, the results can be extrapolated to other contexts.

The possibility of a social desirability bias should also be considered. This could have been corrected by randomising the sample; however, we preferred the option of allowing all nurses interested in answering the questionnaire to do so.

Despite having conducted content validation, the absence of the other types of validation is a limitation that may affect the generalisation of the results.

4.2 | Recommendations for future research

These findings open up a line of research for future studies and for interventions to increase family involvement and improve the quality of care in the paediatric setting. For example, longitudinal studies would help to determine the influence of greater family involvement on children's health outcomes over time. This analysis could include monitoring the impact of parental involvement on treatment plans for children, their recovery and their well-being. In addition, the impact of training programmes for health professionals aimed at improving communication with families should also be assessed.

4.3 | Implications for practice

This research project aims to improve the care provided to hospitalised children and their families, and thus in turn to improve the quality of care in general. The need arises to establish specific training initiatives to increase the presence of parents during procedures, and improving communication between health professionals and parents could be a fundamental strategy. The results of this study could help professionals to develop comprehensive written guidelines, encouraging an integrated and standardised approach to address this sensitive topic in clinical practice. One example is the creation of family care protocols where the inclusion of parents in care actions appears explicitly and clearly and where the nurse is identified as a clear reference for this.

5 | CONCLUSIONS

The results of this study show a favourable opinion of nurses towards family participation in the care of hospitalised children. However, only half of the respondents invite the family to be present during invasive procedures, and only half know the patient- and family-centred model of care.

Regarding the benefit to the patient and the family, most nurses see the presence of family as a source of support for the child. A minority of the participants considered that the presence of the family added to the stress that they felt while performing the procedure.

The nurses suggest the need to develop institutional and health centre protocols and guides that identify the policies and actions of professionals regarding family presence in different invasive procedures. These guidelines should emphasise the importance of mutual decision-making and emotional support from family members. They recommend training nurses to assist family members, providing specific instructions regarding the permitted number of family members present and clarifying the roles of each individual involved in the care process.

Lastly, they would also welcome specific and additional training for nursing staff with the aim of improving patient- and family-centred care, and of encouraging the presence of the family in the day-to-day life of the hospitalised child. All these steps can help to promote a more holistic and humanised approach to healthcare.

AUTHOR CONTRIBUTIONS

Laia Ventura Expósito: conceptualisation, data curation, formal analysis, methodology, project administration, supervision,

writing—review & editing. All the authors have approved the final submitted version. **Antonia Arreciado Marañón:** conceptualisation, data curation, formal analysis, methodology, project administration, supervision, writing—original draft, writing—review & editing. **Mireia Gomà Tous:** conceptualisation, methodology, writing—review & editing. **Mercè Ferrerons Sánchez:** investigation, writing—review & editing. **Esperanza Zuriguel-Pérez:** conceptualisation, data curation, formal analysis, methodology, project administration, supervision, writing—original draft, writing—review & editing.

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CONFLICT OF INTEREST STATEMENT

The authors have stated that there is no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

STATISTICS

The authors have verified that the presentation conforms to the statistical recommendations of the journal. The statistical analysis was carried out at the Statistics and Bioinformatics Unit (UEB) of the Vall Hebron Hospital Research Institute (VHIR).

PATIENTS' CONTRIBUTIONS

The patients did not participate in the design of this study.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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