


# Family perception of safety in hospital care for the pediatric patient: scoping review

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## Abstract

### Introduction

Patient safety is one of the fundamental pillars of the quality of healthcare. The perception of families of hospitalized children allows for an expanded understanding of the factors contributing to the occurrence of safety incidents, raising awareness among healthcare professionals and organizations for implementing safer practices.

### Objective

To map the available scientific evidence regarding the family's perception of the safety of care provided to hospitalized children.

### Methods

A scoping review was conducted following the Joanna Briggs Institute recommendations (2020), adhering to the PRISMA-ScR checklist. Searches were performed on the CINAHL and MEDLINE databases (via EBSCOhost), SciELO, Scopus, and RCAAP, using descriptors and free terms in Portuguese, English, Spanish, and French, from 1999 onwards. Two independent reviewers carried out the search, study relevance analysis, data extraction, and synthesis between March and May 2022.

### Results

Out of the 1,590 studies obtained, 29 were included as they met the eligibility criteria and addressed the objectives of the scoping review. Families reported various safety incidents, with a higher prevalence related to therapeutic administration. They frequently cited lack of communication as a contributing factor to unsafe care. Family members provided diverse suggestions for promoting safety, emphasizing increased vigilance, attention, and information transmission.

### Conclusion

Family members of hospitalized children can identify safety incidents and contributing factors to unsafe care, offering suggestions for improvement. Understanding family members' perceptions and involving them are essential for enhancing the safety of hospitalized children. This scoping review allows healthcare professionals to reconsider their practices and recognize the importance of family involvement in care.

### Keywords

Family; Hospitalization; Patient safety; Pediatrics.

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## Introduction

Safety is a fundamental dimension of healthcare quality. According to the World Health Organization (WHO), high-quality care involves being safe, effective, person-centered, timely, efficient, equitable, and integrated.<sup>1</sup> The recognition of the importance of patient safety and the growing awareness on the topic have primarily emerged in the last two decades, following the release of the 1999 Institute of Medicine report "To Err Is Human," which revealed the immense scope of preventable adverse events at that time.<sup>2</sup> Currently, it is acknowledged that healthcare delivery involves risks, and despite all efforts to prevent failures, much remains to be done to ensure that all patients receive care with the utmost safety.<sup>3</sup> Patient safety, as defined by the WHO, is the reduction of the risk of unnecessary harm associated with healthcare to an acceptable minimum.<sup>4</sup> Since then, this definition has been systematically used in the literature to the present day. In Portugal, the right to health protection is established as a patient's right according to the Health Basic Law, approved by Law No. 95/2019, dated September 4, with safety being one of its essential components.<sup>5</sup> Similarly, according to the Universal Declaration of Human Rights, in Article 3, "everyone has the right to life, liberty, and security of person."<sup>6</sup>(p489) The continuous pursuit of patient safety is thus a universal ethical and legal obligation for all healthcare professionals and organizations.<sup>3</sup> Despite limited studies on the safety of pediatric patients, the data is unsettling. It is believed that children, due to their specificity, are more vulnerable to adverse events during hospitalization compared to the adult population.<sup>7</sup> Their specificity includes accelerated metabolism, greater variation in body weight, requiring frequent adjustment of medication doses and concentrations, organ and system development immaturity, curiosity, and unpredictability of movements, all characteristics of a child's development, requiring increased monitoring and constant vigilance.<sup>8</sup> The child's family serves as the primary reference during their developmental process, understanding their specificities, and acting as important partners in ensuring their physical and emotional safety.<sup>9</sup> Children are often unable to contribute to controlling their own safety, making the effective participation of the caregiver crucial to serving as a prevention barrier to adverse events.<sup>10</sup> The caregiving family member is typically recognized as the child's main caregiver, accompanying them during hospitalization, helping them adapt, and promoting their safety.<sup>11</sup> It is understood that patients and their families can identify incidents and adverse events not detected by professionals and report them without constraints or biases, providing new and valuable information about the type and frequency of these occurrences. Through family members, it is possible to have a distinct perspective on hospital care safety often not reported in notification systems.<sup>12</sup> The perception of family members can be used as a quality outcome indicator to measure the performance of service delivery and its evaluation, signaling the existence of

failures in care and organizational systems, and contributing to the planning of new and safer strategies and practices.<sup>13</sup> In the fourth of the seven strategic objectives of the Global Patient Safety Action Plan 2021-2030, which aims to eliminate preventable harm, it is mentioned: involve and empower patients and families to help support the journey toward safer healthcare. This objective reinforces that patient and family involvement should be an integral part of their safety promotion so that their voice and experience result in a beneficial and powerful influence on clinical practice and global and national policies.<sup>14</sup>

It becomes indispensable for healthcare institutions to encourage the exchange of knowledge among patients, caregivers, family members, and professionals to increase patient safety, with care being built from the partnership of all involved.<sup>15</sup> Although their participation is encouraged, it is reported that it may still be hindered by healthcare professionals' fear of the "transfer" of competencies from professionals to parents/family.<sup>16</sup>

There is diverse and scattered literature available on the perception of family members/parents/caregivers about the safety of care provided to hospitalized children, mostly primary studies, supporting the need for this review. A preliminary search in Prospero National Institute for Health, JBI Evidence Synthesis, OSF home, and the Cochrane Database of Systematic Reviews found no review protocols or current systematic reviews on the posed question, leading to the need to map scientific evidence in this area.

The perception of family members of hospitalized children regarding the safety of care, including factors contributing to unsafe care and their suggestions for improvement, constitutes an added value to raise awareness among healthcare professionals and organizations, fostering learning and the adaptation of behaviors that promote greater safety.

## Objectives

The objective of this review is to map, in scientific evidence, the family's perception of the safety of care provided to hospitalized children.

The current review aims to address the following question: "What is the family's perception of the safety of care provided to hospitalized children?" Starting from the main question, we also intend to identify: "What safety incidents are identified by family members of hospitalized children?"; "What factors contribute to unsafe care identified by family members of hospitalized children?"; "What suggestions are mentioned by family members to promote the safety of care provided to hospitalized children?"

## Methods

The scoping review was conducted following the JBI methodology (2020) for scoping reviews, and the data are presented according to the Preferred Reporting Items for Systematic Reviews and Meta-analyses for Scoping Reviews (PRISMA-ScR) checklist recommendations.<sup>17</sup> A review

protocol was created and registered on the platform *Open Science Framework* (OSF) (<https://osf.io/mz5e9>).

### Eligibility Criteria

For the definition of inclusion criteria, the mnemonic "PCC" was used following the JBI recommendations for scoping reviews. This represents the terms "population", "concept", and "context".<sup>18</sup>

#### Inclusion criteria for the study:

- **Population:** The current review considers studies that include parents/family members/companions/caregivers of hospitalized children, regardless of the child's age (0-18 years) and the cause of hospitalization. No sex, age, ethnicity, or other personal characteristics restrictions were applied.
- **Concept:** Studies focused on patient safety were included. Patient safety is defined as the reduction of the risk of unnecessary harm related to healthcare to an acceptable minimum.<sup>4</sup> Included were studies that addressed any factors identified by family members related to the safety of hospitalized children, including contributors to unsafe care and suggestions for improvement to promote safety. Studies that included questions related to safety culture that addressed the review's questions were also included.
- **Context:** The review covers all contexts of providing hospital care to children (0-18 years), including emergency services, various specialty admissions, operating rooms, intensive care, and neonatology. No cultural or geographical restrictions were imposed.

Quantitative, qualitative, and mixed-methods studies, literature reviews, and grey literature, among others, were considered relevant to the review question and were

included if written in Portuguese, English, Spanish, or French.

#### Exclusion Criteria for the Study:

As exclusion criteria, opinion articles, advertisements, editorials, or letters to the editor were defined.

Given that a scoping review aims to map all available evidence,<sup>18</sup> no temporal limit regarding the publication date of sources was established. However, taking into account a significant evolution in the safety culture of healthcare organizations since the release of the Institute of Medicine's "To Err Is Human" report in 1999,<sup>2</sup> It was considered that earlier studies might not align with the current reality of the safety culture. Therefore, only studies published after 1999 were included.

### Search Strategy

The research strategy aimed to obtain published and unpublished studies that met the defined inclusion criteria and addressed the scoping review's questions.

Firstly, the MEDLINE (via EBSCOhost) and CINAHL (via EBSCOhost) databases were accessed for an exploratory search of relevant studies and identification of the most frequent words in titles and abstracts. The second step involved identifying indexing terms and free terms, applying Boolean operators AND and OR electronically in the MEDLINE (via EBSCOhost), CINAHL (via EBSCOhost), SciELO, and Scopus databases. The search equation was adapted for each database, as specified in Table 1. Additionally, grey literature was searched by consulting the Portuguese Open Access Scientific Repository (RCAAP). The third step included checking the reference lists of selected studies after full-text reading to find potential complementary relevant studies to address the research questions.

Two reviewers searched collaboratively during the months of March and April 2022.

**Table 1.** Search Strategy

Databases	Search Strategy
CINAHL (via EBSCOhost)	(MH ((Parents OR Caregivers OR Family OR "Parental Attitudes" OR "Caregiver Attitudes" OR "Family Attitudes"))) OR TX (( "Parents Perceptions" OR "Parents reports" OR "Caregivers perceptions" OR "Caregivers reports" OR "Family perceptions" OR "Family reports"))) AND (MH ("Patient Safety" OR "Child Safety" OR "Risk Assessment" OR "Risk Management" OR "Attitude to Risk" OR "Quality of Health Care")) OR TX (( "Patient Harm" OR "Medical Errors")) AND (MH ("Pediatric Units" OR "Pediatric Care" OR "Hospitals, Pediatric" OR "Infant, Hospitalized" OR "Child, Hospitalized" OR "Adolescent, Hospitalized" OR "Pediatric nursing")) OR TX (( "Pediatric Hospitalization" OR "Pediatric Urgent Care" OR "Pediatric Operating room" OR "Pediatric Intensive Care" OR "Neonatology" OR "Hospitalized Children")))
MEDLINE (via EBSCOhost)	(MH ((Parents OR Caregivers OR Family)) OR TX (( "Parents Perceptions" OR "Parents reports" OR "Caregivers perceptions" OR "Caregivers reports" OR "Family perceptions" OR "Family reports"))) AND (MH ("Patient Safety" OR "Safety Management" OR "Risk Management" OR "Patient Harm" OR "Medical Errors" OR "Patient Reported Outcome Measures" OR "Quality of Health Care")) OR TX (( "Child Safety" OR "Adverse Event" OR "Incident Reports")) AND (MH ("Hospitals, Pediatric" OR "Intensive Care Units, Pediatric" OR "Child, Hospitalized" OR "Adolescent, Hospitalized" OR "Hospital Units" OR "Pediatric Nursing" OR Pediatrics)) OR TX (( "Pediatric Hospitalization" OR "Pediatric Urgent Care" OR "Pediatric Operating room" OR "Pediatric Intensive Care" OR "Pediatric Care" OR "Hospitalized Children")))
SciELO	((parents OR caregivers OR family OR "Parents perceptions" OR "family perceptions" OR "caregivers perceptions")) AND (("patient safety" OR "safety management" OR "risk management" OR "risk assessment" OR "incident reports" OR "child safety")) AND (("Pediatric Hospital" OR "Hospitalized infant" OR "Hospitalized child" OR "Hospitalized children" OR "Hospitalized adolescent" OR "Pediatric Intensive Care" OR "pediatric operating room" OR neonatology))

Scopus	(TITLE-ABS-KEY ((parents OR caregivers OR family OR "Parents perceptions" OR "family perceptions" OR "caregivers perceptions")) AND TITLE-ABS-KEY (("patient safety" OR "safety management" OR "risk management" OR "risk assessment" OR "incident reports" OR "child safety"))) AND TITLE-ABS-KEY (("Pediatric Hospital" OR "Hospitalized infant" OR "Hospitalized child" OR "Hospitalized children" OR "Hospitalized adolescent" OR "Pediatric Intensive Care" OR "pediatric operating room" OR neonatology)) AND (LIMIT TO (LANGUAGE, "English") OR LIMIT-TO (LANGUAGE, "Portuguese") OR LIMIT-TO (LANGUAGE, "French") OR LIMIT-TO (LANGUAGE, "Spanish")) AND (LIMIT-TO (PUBYEAR, 1999) OR LIMIT-TO (PUBYEAR, 2022))
RCAAP	(parents OR caregivers OR family OR "Parents perceptions" OR "caregivers perceptions" OR "family perceptions") AND ("patient safety" OR "safety management" OR "risk management" OR "risk assessment" OR "incident reports" OR "child safety") AND ("Pediatric Hospital" OR "Hospitalized infant" OR "Hospitalized child" OR "Hospitalized children" OR "Hospitalized adolescent" OR "Pediatric Intensive Care" OR "pediatric operating room" OR neonatology)

### Study Selection

All studies obtained through the search strategy were exported to Zotero software (6.0.6/2022), where duplicates were removed, and a screening of studies was conducted by critically reading their titles and abstracts by two independent reviewers.

Potentially relevant studies were imported into Rayyan QCRI®, where they proceeded to the full-text reading phase, also carried out by two independent reviewers. Each study was analyzed in detail regarding the inclusion criteria. As a scoping review, aiming to map the available knowledge on the topic, critical evaluation of sources was waived. Two studies were identified without a freely available full version, and the publishing journal was contacted to request the studies, but there was no response.

During the study selection process, forty-seven disagreements arose between the two reviewers, which were resolved through consensus between the parties, without the need to consult additional reviewers.

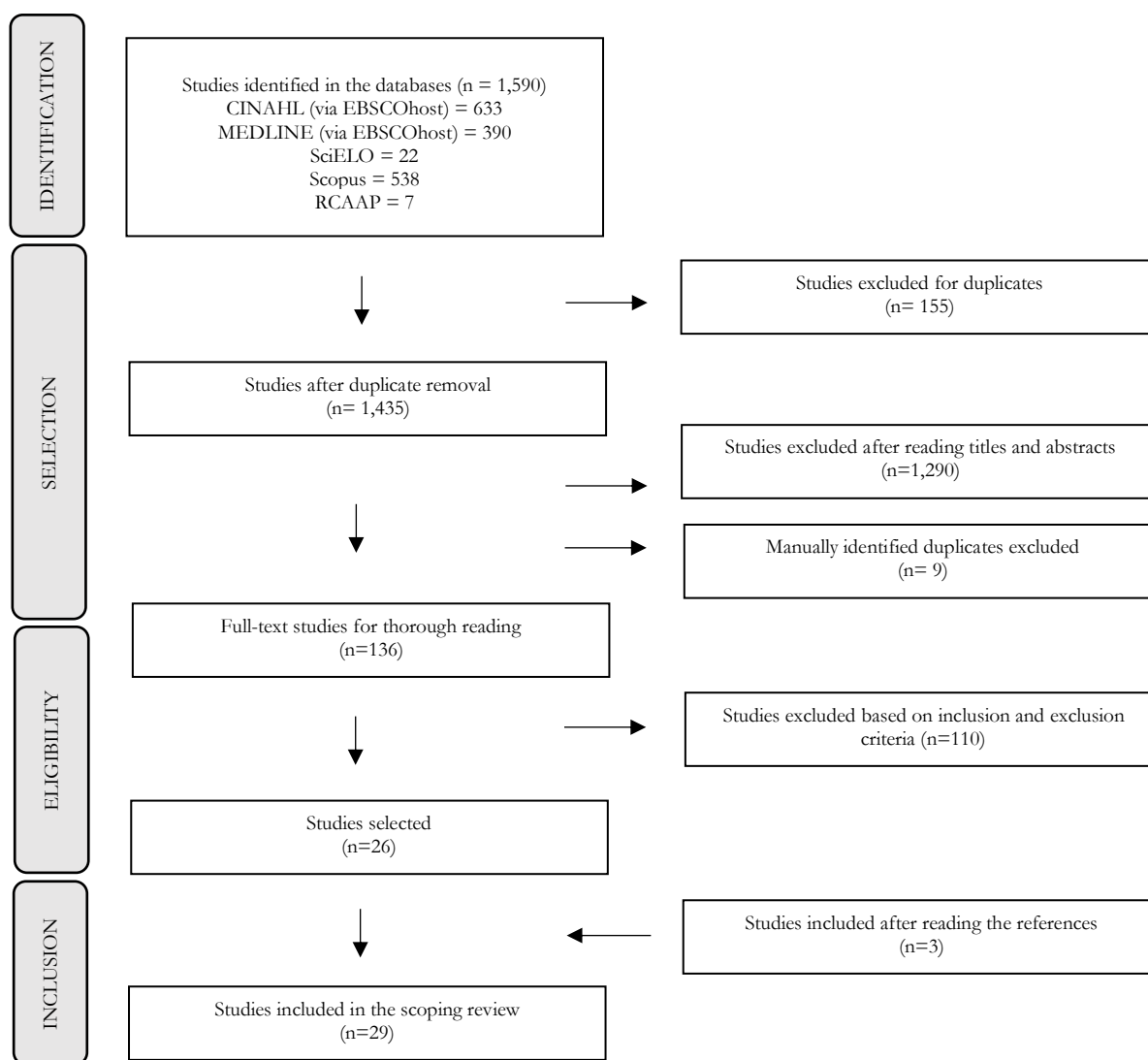
### Data Extraction and Synthesis

For the extraction of data from the included studies, the JBI-proposed data extraction tool was used, which was adapted to the review's objectives. The extracted data from the studies included specific details about authors, title, year, country, objectives, study type, participants, context, and key results relevant to the review questions.

Two independent reviewers performed data extraction. Twenty-two disagreements arose, which were resolved through consensus between the parties, with the need to involve two additional reviewers in two of these cases. Two reviewers conducted the synthesis and presentation of the data jointly.

### Results

The database search yielded 1,590 studies. Out of these, 155 studies were automatically identified as duplicates and were removed, leaving 1,435 studies. After reading titles and abstracts, 1,290 studies were excluded, and an additional 9 were manually identified as duplicates, resulting in 136 studies. After a full-text reading in line with the inclusion criteria, 110 studies were excluded, leaving 26 studies included. Three more studies were selected from the reference lists of the included studies, totaling 29 studies included for review. Figure 1 presents the flowchart of the study selection process following PRISMA-ScR guidelines.<sup>17</sup>



**Figure 1.** Flowchart of the study selection process (adapted from Tricco et al., 2018)<sup>17</sup>

### *Characteristics of Included Studies*

The studies span the time frame from 1999 to 2020, with the highest publication year being 2019 (21%).<sup>15,19,20,21,22,23</sup>

There is a predominance of studies published in the United States of America (USA) (45%)<sup>20,24,25,26,27,28,29,30,31,32,33,34,35</sup> and Brazil (34%).<sup>9,15,19,36,37,38,39,40,41,42</sup>

The majority of studies (86%) adopt a qualitative approach.<sup>9,15,19,20,22,23,25,26,27,28,29,30,32,33,34,35,36,37,38,39,40,41,42,43,44</sup>

In total, this review includes 4,872 participants, of which 3,722 (76%) are parents,<sup>20,21,22,24,25,26,27,28,29,30,31,32,33,34,35,37,43</sup> 883 (18%) are family members,<sup>9,19,36,38,39,41,44,45</sup> 227 (5%) are caregivers,<sup>15,23,42</sup> and 40 (1%) are companions.<sup>40</sup>

Some studies additionally address the perceptions of individuals other than family members (17%); however, their inclusion was possible by extracting data only from the population under study.<sup>19,20,21,36,43</sup>

### *Synthesis of Results*

The characteristics of the studies included in the scoping review and the synthesis of the main results of interest related to the research questions are presented in Table 1.

Chart 1. Characteristics of Included Studies

Authors Year Country	Type of Study Participants Context	Objective	Main Results
Franco et al. <sup>9</sup> 2020 Brazil	Qualitative Study 18 family members Pediatric Unit at the University Hospital of São Paulo	To understand the meaning attributed by family members to the safety of pediatric patients, paying attention to the possibilities of their collaboration.	Family members recognized risks for errors and harm in care. They identified themselves as support elements in minimizing incidents, valuing a child and family-centered approach, and considering care partnership as opportunities to promote safety.
Hoffmann et al. <sup>15</sup> 2019 Brazil	Qualitative Study 40 caregivers 3 Hospital Units in Porto Alegre	To analyze security incidents identified by caregivers of hospitalized children.	Caregivers reported incidents related to falls, feeding, patient/caregiver identification, medication, hand hygiene, hospital environment, nosocomial infections, and procedure performance. Communication and the relationship between caregivers and professionals were the main factors reported for safety incidents.
Biasibetti et al. <sup>19</sup> 2019 Brazil	Qualitative Study 94 family members Pediatric Inpatient Units in 3 hospitals in Porto Alegre	To analyze the perception of professionals and family members regarding communication for the safety of pediatric inpatient care.	Most caregivers understand that being informed about medications and procedures performed allows for a closer look, increasing the child's safety. They mentioned that communication with professionals allows them to be guided on the best way to participate in care, avoiding risks to the child's health.
Wei et al. <sup>20</sup> 2019 USA	Qualitative Study 13 parents Children's Hospital in the USA	To understand the perception of parents and healthcare professionals about the quality of care.	Parents reported feeling secure when observing how professionals treated their children with "compassion and expertise". They noted an increased sense of security and protection when nurses who were not assigned to care for their children examined them and showed interest in their questions.
Witanowska et al. <sup>21</sup> 2019 Poland	Mixed Study 110 parents Pediatric Wards in hospitals	To clarify if the hospitalization process is a difficult situation for the child in the opinion of their parents and medical team.	Out of parents, 92% considered nurses to have a high level of skills. In total, 57.9% believed that nurses ensure not only physical but also psychological safety. They mentioned that a good relationship between the team and family favors the exchange of information, which can influence attitude change and safety promotion.
Shala et al. <sup>22</sup> 2019 Australia	Qualitative Study 23 parents Pediatric Hospital in Sydney	To explore parents' knowledge and awareness of falls in hospitalized children.	Over 50% of parents were unaware of the occurrence of falls during hospitalization but expressed concern. Some, from experience, adopted more prevention strategies. They mentioned not receiving education about falls and being unaware of risk assessment. They believed that their presence and supervision reduced the risk of falling.
Massa et al. <sup>23</sup> 2019 Colombia	Qualitative Study 163 caregivers Pediatric Hospital in Cartagena	To identify caregivers' perception of safety conditions in pediatric hospital care.	Caregivers reported feeling secure in the care provided due to trust in professionals. They identified phlebitis and drug reactions as the most common incidents and falls, infections, and pressure ulcers as less common.
Cox et al. <sup>24</sup> 2013 USA	Mixed Study 172 parents 3 University Pediatric Hospital units	To understand parents' perceptions of the hospital safety environment through the AHRQ tool.	In general, parents considered the institution's safety environment positive, with communication availability being the most mentioned aspect. However, 39% of parents agreed or strongly agreed that they needed to ensure care to avoid errors.
Schaffer et al. <sup>25</sup> 2000 USA	Qualitative Study 1,405 parents Children's Hospital units	To understand parents' satisfaction with communication, safety, and the physical environment to identify opportunities for performance improvement.	Parents expressed fears and identified professional behaviors that made them feel secure. Main fears included contracting infections and child abduction. They would like nurses to observe their children more frequently and emphasized the importance of open communication.
Harbaugh et al. <sup>26</sup> 2004 USA	Qualitative Study 19 parents Intensive Care Unit in the Midwest	To understand parents' perceptions of nurses' caregiving behaviors.	Parents reported feeling more secure with constant monitoring by nurses when associated with effective communication and information provided appropriately. When nurses' behavior was perceived as careless and non-protective, the Pediatric Intensive Care Unit (PICU) environment was identified as unsafe.
Rosenberg et al. <sup>27</sup> 2016 USA	Qualitative Study 12 parents Urban Hospital Ward	To describe families' perspectives on the safety of their hospitalized children.	In addition to reducing harm, parents considered that safety involves comfort. They observed safety-promoting behaviors and identified communication and environmental conditions failures. They mentioned that their relationship with professionals affects care. They emphasized the importance of effective communication and suggested fixing safety recommendations.
Stubblefield & Murray <sup>28</sup> 1999 USA	Qualitative Study 15 parents Children's Hospital in the Midwest	To determine how parents of lung transplant recipients experience and respond to relationships with healthcare professionals.	Parents reported feeling safer when professionals showed concern for their children, emphasized the value of continuity of care, and described a sense of abandonment when their children's condition worsened, noting the need for more attention from professionals.
Sobo <sup>29</sup> 2005 USA	Qualitative Study 35 parents Children's Hospital in San Diego	To understand the safety concerns of parents of pediatric patients undergoing surgery.	Parents considered care safe. Concerns were related to anesthesia, complications, and vulnerability due to physical immaturity. They did not consider the team guilty of complications. Reassuring factors reported: being a low-risk surgery, previous experiences,

Authors Year Country	Type of Study Participants Context	Objective	Main Results
			trust in the team, clarification opportunities, and identity verification.
Tarini et al. <sup>30</sup> 2009 USA	Qualitative Study 278 parents Children's Hospital	To determine the percentage of parents concerned about medical errors and their relationship with medical interactions.	63% of parents reported the need to monitor the hospital care of their children to ensure that no errors are committed. Parents with less proficiency in English and less confidence in interacting with professionals were more likely to report the need to care for and supervise their children's care.
Khan et al. <sup>31</sup> 2017 USA	Prospective Cohort Study 717 parents 4 Pediatric Hospital Units	To compare medical errors and adverse events (AEs) identified by family members with incidents reported by the hospital.	Parents reported concerns, of which 51.8% were classified as real safety concerns; 40%, non-safety-related quality concerns; and 8.2%, other concerns. Identified AEs included multiple needle sticks, treatment delays, incorrect doses, and adverse effects of medications.
Khan et al. <sup>32</sup> 2016 USA	Qualitative Study 471 parents Pediatric Hospital in Boston	To determine how frequently parents experience safety incidents and the proportion that corresponds to AE definitions.	Of parents, 8.9% reported safety incidents. Of these, 62.2% were classified as real safety incidents by the authors. The most reported harmful errors were related to procedures or diagnosis, while non-harmful errors/near-misses seemed more related to medication.
Sobo et al. <sup>33</sup> 2002 USA	Qualitative Study 20 parents Pediatric Oncology Unit	To identify system weaknesses and develop strategies to prevent future errors regarding medication administration.	Parents reported medication administration and communication failures as major safety concerns. They recognized that errors can occur because of the involvement of many professionals. They would like nurses to inform them of the names of medications, standardization of procedures, and equality in information provided to parents.
Mazor et al. <sup>34</sup> 2010 USA	Qualitative Study 35 parents Children's Hospital	To explore parents' perceptions related to events they believed to be medical errors in their children's care.	The most cited cause of medical errors was lack of professional rigor, followed by lack of knowledge, skills, experience, or competencies, insufficient time with the patient, and lack of communication. They mentioned some professionals dismissed their concerns and did not seek advice from colleagues.
Lyndon et al. <sup>35</sup> 2014 USA	Qualitative Study 46 parents NICU in an Academic Hospital	To describe how parents understand child safety and their safety concerns.	Parents expressed confidence in the team and feelings of safety in care. They viewed safety as a combination of three dimensions: physical (safe practices), developmental (interaction, growth, and bonding), and emotional (trust in professionals, information provision, and care involvement). They identified the quality and consistency of care as fundamental. They expressed concern about the ability of some professionals and not "knowing the baby."
Wegner & Pedro <sup>36</sup> 2012 Brazil	Qualitative Study 15 family members Pediatric units in a University Hospital in Porto Alegre	To analyze how family members/accompaniers and healthcare professionals understand adverse events in care situations.	Family members considered the hospital safe despite identifying failures in medication, communication, deterioration of health after procedures, infection risk, inadequate professional ratio, and care provision they considered the responsibility of professionals. They mentioned strategies: use of technologies, effective communication, teamwork, individualized care, handwashing, equipment sterilization, and care guidance and supervision.
Moura et al. <sup>37</sup> 2020 Brazil	Qualitative Study 18 parents Neonatal Unit at a Hospital in the South	To understand parents' experience as a strategy to assess the quality of nursing care.	Parents identified 43 critical incidents. They reported weaknesses in medication administration, equipment use, improper positioning of babies, heating after bathing, skincare, and incorrect hand hygiene.
Hoffmann et al. <sup>38</sup> 2020 Brazil	Exploratory-Descriptive Qualitative Study 91 family members 3 Hospitals in Porto Alegre	To understand the main safety incidents reported by family members of patients admitted to pediatric units.	Family members identified incidents related to medication, hand hygiene, use of personal protective equipment (PPE), diet supply, falls, communication, patient identification and monitoring, procedures, and visit control. They emphasized the team's reflection on their role in transmitting information and guidance to families.
Rodrigues et al. <sup>39</sup> 2018 Brazil	Qualitative Study 23 family members Neonatal Unit at a Hospital in the South	To analyze how parents identify patient safety in the neonatal unit.	Family members reported concerns about unit access control, infection risk, and communication. They felt secure, considering strategies for safety: visit restriction, effective communication, empathetic care, infection control, fall risk assessment, patient identification, and measures for correct prescription/administration of medications.
Lima et al. <sup>40</sup> 2017 Brazil	Qualitative Study 40 companions Pediatric Unit at a university hospital in Goiás	To understand the companion of the hospitalized child's opinion regarding the quality and safety of nursing care.	Parents reported failures in patient identification, hand hygiene, medication administration, fall and skin injury prevention. They reported concerns about care integrity, professional skills, medication administration, infection control, and the presence of strangers in the unit. They emphasized personal and relational aspects of safe care: attention, technical ability, patience, affection, communication skills, education, and respect.
Silva et al. <sup>41</sup> 2012 Brazil	Qualitative Study 13 family members PICU at the Pediatric Hospital in Porto Alegre	To describe adverse events identified by the family/caregiver in a Pediatric Intensive Care Unit.	Family members reported poor care provision, lack of scientific knowledge, and lack of information provided. They reported feeling insecure when excluded from treatment. As promoters of safety, they considered caring with affection and the use of technology. They suggested strategies: more qualified professionals, advanced technology use, and guidance tailored to family needs.

Authors Year Country	Type of Study Participants Context	Objective	Main Results
Peres et al. <sup>42</sup> 2018 Brazil	Qualitative Study 24 caregivers 3 Pediatric Inpatient Services at a University Hospital in the South	To understand the perception of family members and caregivers regarding Patient Safety in Pediatric Inpatient Units.	Parents have limited knowledge about the concept of safety. They did not consider it an error when it does not result in harm. Failures in medication, communication, patient identification, and infection control were identified. Exclusion from care or perceived ineffective communication made them feel insecure. They considered their presence essential for safe care. Suggestions included increasing professional qualification and providing information to families.
Bruyneel et al. <sup>43</sup> 2017 Belgium	Qualitative Study 333 parents University Hospitals in Leuven	To test the Child HCAHPS (survey on family inpatient experiences) in Belgium to instigate international comparison.	Over 50% of parents responded negatively about implementing strategies for error prevention and reporting their concerns. In total, 84.6% reported that child identification was performed before medication administration. Only 10.9% were informed of how to report errors.
Lachman et al. <sup>44</sup> 2015 England	Qualitative Study 85 family members Great Ormond Street Children's Hospital	To test a tool for reporting incidents by patients and family members to sensitize the team to improve safety.	The highest number of safety concerns was about communication failures, followed by significant delays in hospitalization and care provision, as well as problems related to cleanliness and hygiene. Parents reported feelings of vulnerability when their children are hospitalized.
Daniels et al. <sup>45</sup> 2012 Canada	Mixed Study 544 family members 1 Ward at BC Children's Hospital	To identify the results of implementing a system for notifying adverse events to family members of children admitted to a surgical service.	Of the adverse events identified by families, the study's authors considered only 48% legitimate patient safety concerns. Out of the families, 66% believed that professionals were aware of the reported concerns. Lack of communication was the most identified problem as an enhancer of adverse events.

## Discussion

Based on the main results of interest from the included studies, a narrative synthesis was conducted to address the scoping review questions.

### *What is the family's perception of the safety of care provided to hospitalized children?*

In eight studies (28%), family members shared the same perception that, although they identified safety concerns, they considered the care provided to hospitalized children to be safe.<sup>20,23,24,25,29,35,36,39</sup>

Trust in healthcare professionals was reported,<sup>23,35</sup> and some family members perceived a high level of competence in professionals, ensuring not only physical but also psychological safety.<sup>21</sup>

On the other hand, fears and safety flaws were expressed in six studies (21%).<sup>20,24,26,29,35,36</sup> They reported poor care, limited scientific knowledge, and a lack of information provided by professionals.<sup>41</sup> Some responded negatively regarding the implementation of strategies for error prevention and guidance on reporting their concerns.<sup>43</sup> Feelings of vulnerability when children are admitted to the hospital were reported.<sup>44</sup>

Family members mentioned feeling more secure with constant nurse surveillance when associated with adequate communication and information provision.<sup>24,26</sup>

In 10% of the studies, there is an emphasis on the personal and relational aspects of healthcare professionals, identified as contributing factors to a greater sense of security: attention, patience, affection, communication skills, education, respect, and care with "compassion and expertise" for families and children.<sup>20,25,41</sup> A greater sense of security was reported when professionals demonstrated care for children,<sup>20,28</sup> showed interest in their questions, and observed children, even those not under their care.<sup>20</sup>

Some family members perceived safety as a combination of different dimensions: physical, through safe practices; emotional, through trust in healthcare professionals, information provision, and engagement in care; and child development, through interaction, growth, and bonding.<sup>35</sup> Family members also understood safety from a perspective that involved comfort.<sup>27</sup>

They considered that their relationship with professionals affected care<sup>27</sup> and mentioned that a good relationship between the team and family members facilitates the exchange of information, potentially influencing attitudes and promoting safety.<sup>21</sup>

Five studies (17%) reported how family members considered their presence essential to promote safe care and ensure that errors are not committed.<sup>9,22,24,30,42</sup> Regarding this aspect, family members with limited language proficiency and less confidence in interacting with professionals were more likely to report the need to care for and supervise care.<sup>30</sup>

One study specifically addresses the topic of falls. It states that most family members were unaware of falls during hospitalization but expressed concern. Moreover, the fact that they had already gone through this experience resulted in increased vigilance and the adoption of prevention strategies.<sup>22</sup>

In a study conducted in a surgical context, family members stated they did not consider the healthcare professional team guilty of potential complications. Instead, they attributed the possibility of occurrence to the inherent immaturity of the child's physical characteristics and the unpredictability of the child.<sup>29</sup> In another study, it was also possible to understand that, for some family members, the occurrence of an incident may not be seen as a safety error if it does not result in harm.<sup>42</sup>

In three studies (10%), some safety concerns reported do not fall under real safety concerns but rather as other non-safety-related quality concerns.<sup>31,32,45</sup>



### ***What are the safety incidents identified by family members of hospitalized children?***

In decreasing order of reports frequency, the following safety incidents were identified: those related to medication administration (24% of the studies)<sup>15,23,31,32,38,40,42</sup>, patient identification, hospital infection control through hand hygiene, and the use of Personal Protective Equipment (PPE) (14%)<sup>15,38,40,42</sup>, falls (14%)<sup>15,23,38,40</sup>, procedure performance (10%)<sup>15,32,38</sup>, communication (10%)<sup>15,38,42</sup>, diet supply (7%)<sup>15,38</sup>, phlebitis, and skin injuries (7%)<sup>23,40</sup>, multiple needle pricks (3%)<sup>31</sup>, diagnosis (3%)<sup>32</sup>, delays in treatment (3%)<sup>31</sup>, and child surveillance and visit control (3%)<sup>38</sup>.

### ***What are the factors contributing to unsafe care identified by family members of hospitalized children?***

The factors contributing to unsafe care identified by family members of hospitalized children were grouped into two categories: factors related to professionals and factors related to the organization.

Regarding the former, the majority of family members of hospitalized children identify communication failures among the professionals and between the team and the family as one of the contributing factors to unsafe care, with this being the most reported main cause in the included studies (31%)<sup>15,33,34,36,39,41,42,44,45</sup>.

They expressed feeling insecure when excluded from care<sup>41,42</sup> and when nurses' behavior was perceived as careless and non-protective<sup>28</sup>. Concerns were raised about the lack of knowledge, skills, experience, or competencies of some professionals<sup>34,40</sup>, lack of professional rigor, and insufficient time spent with the child<sup>34</sup>. Concerns were also described for not "knowing the baby"<sup>35</sup>. They mentioned some professionals dismissed their concerns and did not seek advice from colleagues<sup>34</sup>. They reported providing care that they believed was the responsibility of professionals<sup>36</sup>. They recognized, in turn, that errors can occur because of the involvement of many professionals<sup>33</sup>. Weaknesses were also mentioned regarding medication administration<sup>33,36,37,40</sup>, use of equipment, baby positioning, warming after bathing, skincare, and hand hygiene as contributing factors to unsafe care<sup>37</sup>. Some family members reported feeling abandoned when the children's condition worsened<sup>28</sup>. They mentioned not receiving education about falls and being unaware of risk assessment<sup>22</sup>.

As for factors contributing to unsafe care related to organizations, family members reported significant delays in hospitalization, in care provision<sup>44</sup>, and an inadequate ratio of professionals<sup>36</sup>. They reported concerns about controlling strangers' access to units<sup>39,40</sup> and the cleanliness and hygiene conditions of the units due to the risk of infection.<sup>36,39,40,44</sup>

### ***What are the suggestions mentioned by the family members to promote the safety of care provided to hospitalized children?***

Suggestions for improvement to promote safety were also grouped into two categories: those directed toward healthcare professionals and those directed toward the organization.

Regarding the former, family members suggested professionals observe hospitalized children more frequently,<sup>26</sup> and reinforced the need for greater attention from healthcare professionals<sup>28</sup> and the importance of open communication.<sup>25,36,38</sup>

They valued and encouraged a child and family-centered approach, considering the partnership of care as an opportunity to promote safety.<sup>9</sup>

Still regarding communication, the majority of companions understood that being informed about the medications and procedures performed allows a closer look, increasing the child's safety.<sup>19</sup> They would like to be informed of the names of medications, not just the types of medications, that all professionals perform procedures in a standardized manner, and that information is provided equally to different family members.<sup>33</sup>

They mentioned that communication with professionals enables them to be guided on the best way to participate in care, avoiding risks to the child's health,<sup>19</sup> and reinforced the importance of the team reflecting on its role in conveying information and guidance to family members.<sup>38,42</sup>

Family members also suggested improvements directed toward healthcare professionals: fall risk assessment, greater attention to patient identification, implementation and compliance with measures for the correct prescription/administration of medications,<sup>39</sup> increased teamwork, handwashing, equipment sterilization,<sup>36</sup> individualized care<sup>36,41</sup>, and care with affection and empathy.<sup>39,41</sup>

In regard to suggestions for organizational improvement to promote safety, family members recommend: greater control and restriction of visits, increased attention to infection control,<sup>4</sup> greater guidance and supervision of care,<sup>38</sup> use of advanced technologies<sup>38,43</sup> and an increase in professional qualifications.<sup>43,44</sup>

They also suggest posting safety recommendations in public areas of the units, such as proper hand hygiene practices, increasing adherence among family members, visits, and greater openness to dialogue with professionals on this aspect.<sup>29</sup>

## **Conclusion**

Through the results extracted from the included studies, it was possible to address the scoping review questions. There is little divergence in the perception of safety among families of hospitalized children. Families can report safety incidents in various aspects of care, with medication administration being the incident with the highest number of reports. They understand that patient safety goes beyond

risk issues, also involving the relationship with healthcare professionals.

There is a particular emphasis on communication and the relationship they establish with healthcare professionals, not neglecting aspects of practice and technique in care delivery. The most frequently mentioned contributing factor to unsafe care was a lack of communication, and improvement suggestions seem to focus on increased information transmission to families and greater attention and vigilance by healthcare professionals for hospitalized children.

Families are indeed attentive to the care provided and show interest in participating in the safety promotion of their children and being involved in care, which gives them a greater sense of security and comfort. The diversity of family perceptions may be related to different safety conditions in various organizations and countries. Their suggestions align with what is recommended for promoting safety in healthcare organizations.

It is understood that families of hospitalized children present a distinct view of the safety of hospitalized children, providing a detached perspective. The current scoping review is considered to provide results that raise awareness among healthcare professionals about their care provision concerning the safety of hospitalized children. Based on the review results, a prevalence of studies conducted in the USA and Brazil was identified. Given the relevance of the topic, an increase in research studies in this area is recommended in other countries.

### Study Limitations

Study limitations identified include the potential risk of omitting relevant studies not covered by the descriptors and free terms in the initial search. However, to mitigate this risk, the bibliographic references of selected studies were consulted. Another limitation is the inability to obtain two studies that could contain relevant data for the review, even after contacting the authors. Additionally, the inclusion of studies in Portuguese, English, and Spanish, excluding studies in other languages, may have excluded potentially important studies from this review.

### Authors' contributions

MSousa: Conception and design of the study; Collection of data; Analysis and interpretation of data; Statistical analysis; Writing of the manuscript.

MCorreia: Conception and design of the study; Data collection; Analysis and interpretation of data; Statistical analysis; Writing of the manuscript.

ENunes: Critical revision of the manuscript.

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No conflicts of interest were declared by the authors.

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