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# Children's satisfaction with nursing care during hospitalization: A cross-sectional study

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ABSTRACT

*Purpose:* To assess hospitalized children's satisfaction with nursing care.
*Design and methods:* Cross-sectional study using the "Children Care Quality at Hospital" questionnaire. 61 children admitted to the Pediatrics Department of a hospital in the Northern Region of Portugal were enrolled.
*Results:* The ranged age of the participants was 6 to 15 (10,61 ± 2,66 years), and most were male (52.46%; $n = 32$). The mean score in the three domains was 128 (77.11%), reflecting children's high satisfaction with the nursing care provided during hospitalization. The domain most valued was Nurse Characteristics, while the least valued was Nursing Environment.
*Conclusion:* Results provide essential input for the dimensions to be considered when planning nursing care for children, managing care, and the physical environment in the wards.
*Implications for practice:* These results highlight the need to hear children's voices. This must encourage nurses to reflect on how children evaluate nursing care and, by doing so, to increase the quality of nursing care provided in Pediatrics settings.



## Introduction

A child's hospitalization is a crisis event that has an impact on the child and the family. It implies a change in daily routine and, therefore, can trigger feelings such as anxiety, fear, anger, helplessness, sadness, and guilt (Loureiro, 2020).

Nurses play a crucial role in caring for hospitalized children and their families. Therefore, trained professionals must provide child and family-centered care. This type of care involves several areas, including minimizing the harmful effects of hospitalization, understanding child development, considering family dynamics when caring for children, using effective communication techniques, and identifying alarm signs early on (Casey, 1995; Lopes, 2012). If nurses lack the necessary knowledge and skills, the children may suffer traumatic experiences that could have a negative impact on their development and persist into adulthood (Comparcini et al., 2018; Loureiro, 2020). To prevent negative experiences, nurses should use more suitable communication techniques based on the child's development stage and provide age-appropriate toys (Romito et al., 2021).

Customer satisfaction has received particular attention. It focuses on evaluating health care, particularly nursing care, and is considered an essential indicator of the quality of care provided (Coleman et al., 2020). Concerning children's hospitalization, satisfaction is usually analyzed by parents. According to Loureiro (2020), parents do not mirror children's real perceptions, which can result in care that is out of touch with them. Children are often seen as incapable of identifying their feelings and emotions, so nurses do not feel the need or obligation to explain procedures or establish an appropriate therapeutic relationship (Lima et al., 2020). However, evidence suggests that children want to be heard, included in care, and have an active voice in the

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planning and course of their health care (Quaye et al., 2021). Health professionals should involve children as active members of health teams (Loureiro, 2020). Assessment tools have emerged in recent years to understand customer satisfaction, especially among children (Loureiro, Figueiredo, & Charepe, 2019; Pelander et al., 2009). These tools allow nurses to assess client satisfaction with the nursing care experience, making it easier to identify areas for improvement.

A recent study found that school-age children value empathy, skill, respect, and affection in the therapeutic relationship and communication related to nurse-child-parent aspects of care (Duarte, 2021). The provision of care primarily focuses on communication and continuity of care. Communication is crucial, and it has been noted that the child and parents are often dissatisfied with the lack of information about the illness and explanations when a procedure is carried out. It can be challenging to involve the child and parents in the care process and give them the feeling that their knowledge and opinions are valued. In terms of continuity of nursing care, when different nurses care for the same child and family, there can be a dispersion of information provided, leading to frustration for the parents and the child. It may be difficult for them to determine which information is accurate. Moreover, when each nurse has limited time to spend with a child and may have a slower response to their actions, it can lead to a feeling of lack of support (Duarte, 2021). Therefore, evaluating children's satisfaction with hospitalization is essential to improve care and communication with children and their families. Nevertheless, recent evidence on children's satisfaction with nursing care is scarce (Loureiro, Figueiredo, & Charepe, 2019). The study aims to assess hospitalized children's satisfaction with nursing care. This paper will provide the children's perspective on their best and worst experiences during hospitalization and overall satisfaction.

## Methods

The methodological approach selected to answer the study's aim was a cross-sectional study. For data collection, the "Children Care Quality at Hospital" (CCQH) developed by Pelander et al. (2009) and validated for the Portuguese population by Loureiro, Araújo, and Charepe (2019) was used. This tool allows collecting information about the child's satisfaction with their nursing care experience in hospitalization. On the other hand, when the care does not meet the children's expectations, it makes it possible to identify critical areas for improving the quality of care.

### *Participants*

Participants were enrolled using a non-probabilistic convenience sampling method. Inclusion criteria were age from 6 to 15 years; who were admitted to the pediatric service, with a minimum of 24 h of hospitalization; who could speak and write Portuguese; who could answer the items on the instrument alone or with help; and whose legal guardian consented to participation. Exclusion criteria were the existence of associated psychiatric or neurological disease, children with developmental delay, or children in outpatient care. The study's aim, data collection method, and estimated completion time were explained to the participants. The language used to explain the study was adapted to ensure the children could comprehend and make an informed decision about their participation. When introducing the questionnaire to the children, abstract concepts were explained using simple language, and examples were provided.

### *Data collection questionnaire*

The CCQH consists of two parts. In the first one, data on the participants' sociodemographic characteristics, such as age, sex, reason and history for hospitalizations, and hospitalization conditions (facilities and presence of parents) are asked. The second part of the questionnaire comprises 49 items, divided into three domains: *Nurses' Characteristics, Nurses' Activities,* and *Nursing Environment*. The *Nurses' Characteristics* domain has five items, ranging from 5 to 15 points, where children are asked to score kindness, competence, friendliness, cheerfulness, and honesty. The second domain, *Nurses' Activities*, is scored from 21 to 75 points and comprises three sub-scales: "*Care, entertainment and support*" with 11 items, "*Physical care and treatment*" with four items, and "Education" with 10 items. The third and final domain of the questionnaire, *Nursing Environment*, has a minimum score of 19 points and a maximum of 76 points, divided into three sub-scales: "*Social Environment*" and "*Physical Environment*", both with seven items each, and "*Emotional Environment*", with five. The questions in the first two domains (*Nurse's Characteristics, Nurse's Activities*) are answered on a Likert scale from 1 to 3, using words and faces (1 = never = ☹; 2 = sometimes = 😐; 3 = always = ☺). For the *Nursing Environment* domain, a scale of agreement from one to four is presented using teddy bear images. A higher score indicates higher satisfaction. The instrument allows for scores between 166 points and 45 points, in which 166 points translate into total satisfaction with nursing care and, conversely, 45 points indicate children's dissatisfaction with the quality of nursing care. This questionnaire also includes two open-ended questions about the child's hospitalization experience. The child is asked about the best and worst things that happened to them during hospitalization. In the last question of the questionnaire, the child is asked to give a score to the care given to them, using school grades as an analogy (which in Portugal ranges from 1 to 5), where one (1) corresponds to the worst care and five (5) to the best care. Some of the items in the instrument are reversed to calculate satisfaction.

The instrument's consistency in its Portuguese version is 0.56 in the *Nurses' Characteristics* domain, 0.81 in the *Nurses' Activities* domain, and 0.76 in the *Nursing Environment* domain.

### *Data collection procedure*

Data was collected between June 2022 and February 2023 from 61 children complying with inclusion criteria consecutively admitted to the Hospital Center's Pediatrics department. The pediatric inpatient department takes in newborns and young people up to and including the age of 17. It has a maximum capacity of 27 beds, 19 of which are for pediatric inpatients, four beds for children admitted on an outpatient basis, and four beds for neonatal inpatients.

The nurse manager of the pediatrics department was responsible for data collection and was not directly involved in caring for the hospitalized children. Initially, the responsible researcher conducted a briefing session with the nurse manager and shift coordinators to explain inclusion criteria, the data collection, and the procedures for obtaining informed consent from legal guardians and children. Early during the study design, the possibility of behavior modification in nurses or children was acknowledged. To minimize this effect, the nurse manager made it clear to the children and their parents/legal tutors that participation in this study would not interfere with the care provided, that it was not meant to judge either the children or the nurses, and that the nurse manager was interested in their honest feedback. It was assured that their feedback could never be traced back to them, results would be presented anonymously, and the study was meant to improve the care provided to them and other children hospitalized in that department. Only the nurse manager and shift coordinators knew the study's aim. The nurse manager coded the questionnaires and collected data. In the nurse manager's absence, the shift coordinator nurses carried out this task on the weekend and then handed the questionnaires to the nurse manager. At the end of the study, they were handed over, fully anonymized, to the researcher responsible for data analysis.

Statistical data analysis was done using the Jamovi Version 2.3 program, which calculated descriptive measures of central tendency (mean and standard deviation) and correlation tests. A significance level of $p < 0.5$ was set. The content of the open-ended questions was

analyzed to discover the meanings in the children's responses. Two researchers independently classified concepts, identifying the registration units' dimensions, categories, and subcategories. Content analysis followed Bardin (2018) perspective.

### *Ethical considerations*

Throughout the development of this study, all ethical and legal requirements have been met. Data collection was authorized by the Board of Directors and the Ethics Committee of the Hospital Centre where the study occurred (CES N° 30_2022). The participants were informed of the purpose of the study, the data collection method, and the expected duration of the study. The information was presented in simple language to ensure that the children could understand and decide on their participation. The confidentiality and anonymity of the participants were guaranteed, and the children were assured that non-participation would not have consequences. Informed consent was obtained verbally and in writing. The legal guardian signed the consent form.

## Results

In this study, 61 participants were enrolled; 47.54% ($n = 29$) are female and 52.46% ($n = 32$) male, with a mean age of 10.61 ± 2.66 years (minimum 6; maximum 15). Table 1 summarizes the participant's sociodemographic data.

In the three domains of the CCQH, the mean score obtained was 128 (77.11% satisfaction). This result reflects the participants' satisfaction with the nursing care provided during their hospitalization. Table 2 shows the results obtained in each domain of the instrument:

The best-scoring item in the *Nurses' Characteristics* domain was "My nurses are competent," with a mean of 3.00 ± 0.00. The lowest-scoring item was "My nurses are fun", with a mean of 2.80 ± 0.40. Regarding the *Nurses' Activities* domain, two items were identified with the best scores: "Nurses protect my intimacy" and "Nurses tell me my treatment", with a mean score of 2.97 ± 0.18. The lowest-scoring item was "They help me eat," with a mean score of 0.38 ± 0.88. In the *Nursing Environment* domain, the item with the highest score was "In the hospital, my parents accompany me," with a mean score of 3.85 ± 0.54. The item with the lowest score was "My friends can visit me", with a mean score of 1.79 ± 1.16. The internal consistency calculation revealed $\alpha = 0.49$ for the *Nurse's Characteristics* domain, $\alpha = 0.79$ for *Nurse Activities*, and 0.76 for the *Nursing Environment* domain. When calculating the internal consistency of the first domain, *Nurse's Characteristics*, the item "My nurses are competent" was excluded from the analysis due to lack of variance.

**Table 1**
Participant's sociodemographic data.

| Sociodemographic variables | *n*(%) |
|---|---|
| Reason for hospitalization | |
| *Scheduled* | 14(22.95) |
| *Accident/trauma* | 11(18.03) |
| *Acute illness* | 36(59.02) |
| Room occupancy | |
| *Alone* | 38(62.30) |
| *With other children* | 15(24.59) |
| *Alone now, but with other children before* | 8(13.11) |
| Previous hospitalizations | |
| *Yes* | 40(65.58) |
| *No* | 18(29.50) |
| *Do not Know* | 3(4.92) |
| Parental support during hospitalization | |
| *All day long* | 58(95.08) |
| *Only during daytime* | 3(4.92) |
| The child has a nurse who cares for him/her more often | |
| *Yes, and knows his/her name* | 24(39.34) |
| *Do not have or do not know* | 37(60.66) |

**Table 2**
Results obtained by CCQH domains.

| Domain | Mean/SD | Satisfaction (%)¥ | Range |
|---|---|---|---|
| Nurses' Characteristics | 14.6 (± 0.71) | 97.33 | 12–15 |
| Nursing Environment | 47.8 (± 5.96) | 68.28 | 36–70 |
| Nurses' Activities | 66.6 (±5.66) | 88.8 | 50–75 |

¥ Satisfaction percentage based on the total of points of each domain.

From the content analysis of the open questions, six categories emerged for the best experience, and four categories emerged for the worst experience. Concerning the best experiences, the categories "Health Professionals" and "Hospitality" comprise most of the recording units (57.18%). For the worst experience, most recording units were in the "Environmental characteristics" category. Tables 3 and 4 illustrate some examples of the recording units that best characterize the categories and subcategories resulting from the analysis.

The last question of the CCQH allows the children to assess the care provided during hospitalization. The mean score was 4.59 (± 0.53), suggesting that the children perceived the care provided with satisfaction. By correlating the score obtained from the last question of the CCQH with the mean satisfaction score of the three domains of the CCQH, it was found an $r = 0.320$ and a $p = 0.006$, allowing to infer that there is a correlation between them, thus suggesting that the children are satisfied with the care provided during hospitalization.

## Discussion

According to the results, children are satisfied with the nursing care they receive during hospitalization. Children particularly appreciate the characteristics of the nurses, who are described as caring, competent, and friendly. These attributes ensure a positive hospitalization experience and minimize suffering. A similar result was obtained in a study developed in Italy using the CCQH (Comparcini et al., 2018), which revealed, in a regression analysis, that *Nurse's Characteristics* is the factor that contributes the most to children's satisfaction with their hospitalization experience. Even when using other measures to assess children's satisfaction with hospitalization, the domain of *Nurses' Characteristics* continues to weigh the most on children's satisfaction (Coleman et al., 2020; Lima et al., 2020; Loureito et al., 2021; Santos et al., 2016).

During hospitalization, nurses' approach towards children and the image they convey can positively or negatively affect children's adherence to uncomfortable procedures and management of emotions resulting from the illness and hospitalization process (Petronio-Coia & Schwartz-Barcott, 2020). Children appreciate friendly and caring nurses who can provide information about their treatments (Loureiro, Figueiredo, & Charepe, 2019; Santos et al., 2016), corresponding to one of the highest-scoring items in the Nurses' Activities domain. According to Xavier et al. (2010), this bond is facilitated by the nurse's willingness to listen and inform the child, using assertive and clear communication. Another important aspect is the respect for the child's privacy, supported by Article 10 of the EACH Charter from the EACH European Association for Children in Hospital (2017) and consistent with the care philosophy of the hospital where the study was developed. The item "They help me eat" has received a lower score in this domain. This score could be explained considering that children are accompanied by their parents, at least during the daytime.

The domain with the lowest score was the *Nursing Environment*, which corroborates the findings of Comparcini et al. (2018). In other studies, children reported that aspects of the hospital environment, such as alarms, gave the worst hospitalization experience, highlighting the importance of addressing care environment issues (Clark et al., 2019; Loureiro, Figueiredo, & Charepe, 2019). Environmental aspects such as light and noise interfere with hospitalized children's sleep quality and rest (Hybschmann et al., 2021; Zores et al., 2018). On the other hand, providing entertainment, playrooms, or storytelling can also

**Table 3**
The best hospitalization experience.

| Categories | Subcategories | Examples of recording units | % of recording units |
|---|---|---|---|
| Environmental characteristics | Physical and technological environment | "…the facilities are also good." (Participant [P]7)<br>"…the playroom and my room." (P21)<br>"I liked my room…" (P56)<br>"…always being able to be on my cell phone" (P26) | 13.87% |
| | Food | "The best thing is the food." (P25)<br>"…the soup" (P59) | 3.34% |
| Health professionals | Nurses | "…the nurses are great …" (P34)<br>"The support that all the nurses give me …" (P48) | 17.96% |
| | Doctors | "… and the doctors." (P34) | 11.23% |
| | Ward assistant | "The service provided by the … ward assistants." (P43)<br>"Company…of ward assistants" (P57) | 5.61% |
| Hospitality | | "…availability by doctors and nurses…" (P33)<br>"…the hospitality of doctors." (P17)<br>"…it has been everyone's kindness…" (P16)<br>"…very attentive nurses and doctors…" (P32)<br>"The care and the way they treat me" (P35) | 22.38% |
| Recovery from illness | Healthcare-related expectations | "Being sick and getting better" (P15) | 8.91% |
| | Playing in hospital | "…I can play a little" (P16)<br>"…having fun with some of the nurses" (P28)<br>"having babies over to play" (P61) | 4.42% |
| Accompaniment | | "Having my mother by my side." (P40)<br>"Having my mother" (P41) | 5.56% |
| Not specified | | "...nothing special to say" (P54) | 6.72% |

help children adapt better to hospitalization (Brondani & Pedro, 2019; Clark et al., 2019; Loureito et al., 2021). According to recent research (Silveirinha, 2021), children who are hospitalized often experience fear and anxiety as they are in an unfamiliar environment surrounded by medical staff who they believe will cause them pain. Our study's results do not align with the evidence regarding the fear of children when interacting with nurses and doctors, as most recording units (60,44%) concerning worst hospitalization experiences were related to environmental characteristics, and most of the recording units (57,18%) about the best hospitalization experiences were related to healthcare professionals and hospitality. The analysis of the best and worst hospital experiences aligns with the results of the tool domains. The children gave positive feedback on the health professionals and hospitality, while they raised concerns about environmental factors such as crying babies and issues related to privacy. Implementing nursing interventions to promote the child's adaptation to hospitalization includes playful activities (Barros et al., 2021), aspects equally valued by the children. The absence of these activities stands out in the analysis of the worst hospitalization experiences. The children also mentioned the importance of having someone accompanying them during their hospitalization. The limitations imposed by the COVID-19 pandemic have significantly changed how family members and visitors access and stay in the hospital and may be one of the reasons for the children's responses. Some health institutions in Portugal continue to apply restrictions on hospital visits. These restrictions should be reconsidered, especially concerning hospitalized children.

The internal consistency values obtained are lower than those obtained in the validation for the Portuguese population but are still considered adequate (Taber, 2018), except for the first domain. The value found can be explained by the small number of items in this domain (four), added to the fact that one of the items was removed from the analysis due to lack of variance. The internal consistency of this tool is just one of several reliability measures available and should, therefore, be interpreted with caution. Since the purpose of this study

**Table 4**
The worst experience of hospitalization.

| Categories | Subcategories | Examples of recording units | % of recording units |
|---|---|---|---|
| Environmental characteristics | Confinement | "…being closed for many hours in the same place" (P11) | 12.65% |
| | Waiting time | "…the waiting time." (P33) | 9.06% |
| | Food | "In my opinion, the worst thing about the hospital is… the food." (P17)<br>"…I don't like the food …" (P21)<br>"…Definitely the food." (P34) | 17.22% |
| | Physical and technological environment | "…not having more TV channels …" (P19)<br>"… not having internet …" (P21)<br>"…hearing babies crying." (P56)<br>"…privacy" (P2)<br>"my mattress, I got contractures" (P59) | 21.51% |
| Accompaniment | | "My parents can't be with me at the same time." (P4)<br>"…not being able to receive more visitors." (P19) | 4.04% |
| Care process | Symptoms management | "When I am in pain." (P8)<br>"I hate feeling sick." (P27) | 4.04% |
| | Invasive procedures | "I don't like when they take my blood and give shots." (P61)<br>"…needles for drawing blood." (P17)<br>"Stings from catheters and injections" (P46) | 13.80% |
| Not specified | | "There is nothing bad about it for me. Everything went well. Many thanks to everyone." (P14)<br>"…I have nothing negative to say." (P16) | 17.68% |

was not to evaluate this tool's psychometric properties, further analysis of measurement proprieties of the European Portuguese version is recommended. This would help to reinforce the outcomes of future research and enhance the accuracy.

Research on children's satisfaction with hospitalization is multifaceted, and the available evidence varies depending on the different aspects of hospitalization studied (Loureiro, Figueiredo, & Charepe, 2019). More broadly, research has explored factors influencing children's satisfaction, including the quality of care, communication with healthcare providers, hospital environment, and hospitalization experience in specific settings (Lima et al., 2020). Despite growing evidence, it is essential to note that individual experiences can vary greatly. Children may have different preferences and reactions to hospitalization based on age, development stage, and clinical condition. Furthermore, the healthcare environment and practices can be different, influencing children's and family's satisfaction. It is essential to systematize areas of attention, depending on the context, so that the best evidence can inform that practice.

Strengths and limitations:

Obtaining perspective from children during their hospitalization is rare, which might be this study's main strength. By adopting this perspective, we understand that the child is effectively placed at the center of care and seen as a stakeholder in its health/illness transitioning process. Researchers plan to discuss these results with the team. By doing so, nurses can assess their practices based on the child's satisfaction. The ratings received for nurse care were good, while the environment received the lowest ratings. This highlights the need to discuss strategies to minimize the impact of environmental factors on children's well-being during their hospitalization. Future research should clarify which environmental factors contribute the most to worse hospitalization experiences. Findings suggest that children must be heard during their hospitalization as their input is vital in promoting nursing care closer to their expectations.

This study has limitations, mainly due to the sample size and development in only one pediatric department. This context is medical mainly, with low surgical activity, the reason for which results should be interpreted with caution. Therefore, multicentric studies with more participants using the CCQH will allow comparability and reinforce the validity of these results. Furthermore, it is important to analyze the variables significantly influencing a child's hospitalization experience. This allows for identifying factors that can lead to a negative perception of the hospital stay. The authors also acknowledge the possibility of the Hawthorne effect as a limitation.

## Conclusion

Children expressed high satisfaction with the nursing care provided during hospitalization, particularly emphasizing Nurse Characteristics. The results also suggest that aspects of the care environment provide the worst experiences for children, thus providing valuable input for the dimensions to consider when planning nursing care and managing the physical environment. Despite this, the evidence on children's perspectives is still inconsistent due to the insufficient reporting of children's points of view. This study contributes to increasing knowledge and identifying priority areas for intervention in this field. Research in this area should be encouraged for its relevance in contributing to the provision and organization of nursing care. Further research may provide insight into tackling environmental issues, enhancing children's hospital experiences, and diminishing its impact on their development.

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## CRediT authorship contribution statement

**Maribel Domingues Carvalhais:** Writing – review & editing, Validation, Supervision, Methodology, Conceptualization. **Andrea Raquel Melo Oliveira:** Validation, Supervision, Conceptualization, Writing – review & editing. **Paula Cristina Ferreira Fontoura:** Writing – review & editing, Validation, Supervision, Conceptualization. **Catarina Sousa Soares:** Writing – original draft, Project administration, Methodology, Formal analysis, Data curation. **Bruna Filipa Conceição Pinho:** Data curation, Formal analysis, Methodology, Project administration, Writing – original draft. **Ana Catarina Lopes Beirão Fernandes:** Writing – original draft, Project administration, Methodology, Data curation, Formal analysis. **Vanessa Silva Azevedo:** Writing – original draft, Project administration, Methodology, Formal analysis, Data curation. **Sónia Catarina Silva Santos:** Writing – original draft, Project administration, Methodology, Formal analysis, Data curation. **Mariana Isabel Tavares Fernandes:** Writing – original draft, Formal analysis, Data curation, Methodology, Project administration. **Isabel de Jesus Oliveira:** Writing – review & editing, Validation, Supervision, Methodology, Formal analysis.

## Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation of this work, neither AI nor AI-assisted technologies were used.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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