

Instruments to evaluate hospitalised children parents' satisfaction with nursing care: a scoping review

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ABSTRACT

Aim To identify instruments that allow the evaluation of parent's satisfaction regarding nursing care during their child hospitalisation.

Methods A review was performed using Preferred Reporting Items for Scoping Reviews. The study was prospectively registered in Open Science Framework. Research was carried out on EBSCOhost, PubMed, SciELO, Web of Science and ScienceDirect platforms as well as grey literature. Additionally, the references of selected articles were also examined.

Results A sample of 65 articles allowed the identifications of 38 distinctive instruments to evaluate parents' satisfaction in different hospital settings. Most studies were applied in paediatric wards (n=28), followed by neonatal intensive care units (n=21), paediatric intensive care units (n=9) and emergency departments (n=7). Sample size ranged from 13 to 3354 and 3 studies used mixed methods, 20 were methodological studies of instruments construction or validation and 43 were quantitative studies. 21 different instruments previously existent were found. In 3 studies, adapted instruments were used and, in 14 studies, structured instruments were purposively designed for the study. Instruments had between 1 and 13 domains and total number of items ranged between 13 and 92. Most studies assessed overall satisfaction (n=53) and instrument reliability (n=49) and/or validity (n=37).

Conclusion Most instruments consider nursing care as a domain of satisfaction. Only two instruments focused specifically on nursing care. In most of the studies, there was a concern to evaluate instruments psychometric properties. This review clearly shows that there is still a gap in the literature on the range of aspects that influence satisfaction and a lack of consensus on ideal conditions for instrument use and application.

INTRODUCTION

Satisfaction with nursing care is a recognised quality indicator,¹ defined as a personal opinion that confronts perceived needs, care expectations and received care experiences in the professional, personal and environmental domains.² In paediatric care, satisfaction is usually evaluated through parents particularly in hospitalised children.³

Hospitalisation represents an adverse event for children and families with impact

KEY MESSAGES

- ⇒ Evaluating satisfaction of parents of hospitalised children with nursing care is essential to assure quality of care.
- ⇒ The aspects that influence satisfaction with care from parents' point-of-view are not clear or consensual in the literature.
- ⇒ There is a variety of instruments to evaluate parent satisfaction with care with valid psychometric properties and sensible to different hospital settings characteristics.
- ⇒ There is still a lack of consensus on ideal conditions for instrument use and application on parents' satisfaction with nursing care.

in daily life⁴ and stress.⁵ Although there are several theoretical conceptions concerning hospitalised children care,⁶ family-centred care (FCC) is documented as the dominant one, providing orientation to nursing care in paediatric settings.⁷ This approach considers the relevance of family role in children's life including them as partners in care. Partnership between health professionals, children and parents is fundamental for effective application of FCC.⁸ Evaluation of parent's satisfaction leads to the identification of key aspects to improve the quality of care provided.⁹ The effect of satisfaction with nursing care on overall satisfaction with hospitalisation is well established in literature.^{10 11}

The evaluation of satisfaction with nursing care was first described in 1957¹² and evaluated through total nursing care hours available. In 1975, it was documented one of the first instruments to specifically measure nursing care.¹³ Over the years, more refined measurement instruments have been used still there is no consensual instrument used and knowledge in this matter is scattered. Previous reviews have been performed, focusing on specific contexts such as neonatal intensive care units (NICUs)¹⁴⁻¹⁶ or paediatric intensive care units (PICUs).¹⁷ In 1999, Conner and Nelson¹⁴ identified some of the



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dimensions most valued by parents concerning their satisfaction with the care provided in a NICU, highlighting communication, information, education, environment, pain management, participation and support. Nevertheless, the authors concluded that these dimensions are not fully integrated in questionnaires, and only a few are available and validated. Butt *et al*,¹⁵ in an integrative review, tried to synthesise the literature on parents' satisfaction in the same context, overlapping the dimensions previously found, showing a gap in the production of new evidence. Dall'Oglio *et al*,¹⁶ in a systematic review, underlined the assessment of parental satisfaction as a key element of the FCC. Still, only two instruments were found to be validated and available to assess parents' satisfaction within FCC principles. Additionally, to the reviews found on parental satisfaction in neonatal units, only one other was identified for the PICU context. In a critical appraisal of literature, Latour *et al*¹⁷ assessed the characteristics of satisfaction surveys for the development of a parent satisfaction questionnaire for those units. Most studies showed sufficient results on reliability and validity, despite the use of questionnaires being underreported. From what we could find there are no robust studies on the type of instruments applied to other child-care settings and no scoping review has been performed on this subject. Additionally, the reviews found were performed in 1999,¹⁴ 2005,¹⁷ 2013¹⁵ and 2018¹⁶ and, therefore, are not updated. Also, due to the dearth of evidence, there is the need of a more comprehensive and rigorous research in this field.

The purpose of this review is to identify available instruments to evaluate parents' satisfaction with nursing care during their children hospitalisation. A scoping review was chosen since this type of review allows to identify and map the available evidence.^{18 19}

METHODS

A scoping review²⁰ to identify instruments used to evaluate hospitalised children parents' satisfaction with nursing care was conducted. The research question was defined according to PCC: which are the instruments used to evaluate hospitalised children parents' satisfaction with nursing care? (Population: children's parents; Concept: satisfaction with nursing care; Context: hospital).

Scoping review steps²⁰ are detailed below.

Protocol and registration

Scoping review protocol was drafted according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA) and registered prospectively in Open Science Framework on 30/03/2022 (<https://osf.io/mabgv/>).

Eligibility criteria

Published articles concerning parent's satisfaction with nursing care evaluation were considered. Empirical studies with quantitative or mixed methods were

included to amplify the coverage of existing evidence. Peer-reviewed papers available in open access and full text, written in English, Spanish or Portuguese and published between 1 January 2001 and 31 December 2021 were included. Exclusion criteria comprised: qualitative methodology and studies that evaluated ambulatory nursing care; literature reviews, letters to the editor, editorials, blog articles, advertising and opinion articles; studies where satisfaction with nursing care was evaluated by children or others than parents.

Information sources

Three steps were followed as recommended.²¹ In step 1, a preliminary search in Medical Literature Analysis and Retrieval System Online (MEDLINE) and Cumulative Index to Nursing and Allied Health Literature (CINAHL) was conducted. This allowed the identification of keywords for the search equation that were validated in Medical Subject Headings (MeSH). In step 2, the research was performed in EBSCOhost in the following databases: Cumulative Index to Nursing and Allied Health Literature (CINAHL) (complete); MEDLINE (complete); Nursing & Allied Health Collection (comprehensive); Cochrane Central Register of Controlled Trials; Cochrane Database of Systematic Reviews; Cochrane Methodology Register; Library, Information Science & Technology Abstracts (LISTA) and MedicLatina. PubMed, SciELO, Web of Science and ScienceDirect were also searched. For grey literature, Open Grey and Portuguese Scientific Open Access Repository (RCAAP) were used.

The list of references from the articles selected were, in step 3, searched to locate supplementary significant literature.

Search

Keywords (parents; mothers; fathers; satisfaction; nursing care; nurses; nursing), boolean operators (AND/OR) and an asterisk operator (*) (to identify variations of the original word) were used for research equation. Different grouping and combinations were used according to each platform and database characteristics (<https://osf.io/mabgv/>). Research was performed by both authors in February 2022.

Selection of sources of evidence

Initially, articles were selected by title. When it was not clear if the article tailored this review, the abstract was read. Duplicates were removed and inclusion/exclusion criteria were applied. To increase consistency both authors screened the same publications. Disagreements were resolved through peer discussion.

Data charting process

Data charting tables were developed to extract variables. The process was initially performed individually and then compared by authors to decide divergences and increase accuracy.

Table 1 Characteristics of the instruments applied in the ED

Context	Instruments	Methods	Participants	Sample
ED	SQDS	Quantitative ^{47 66 67 93}	Parents ^{66 67 93} , carers ⁴⁷	133 ⁶⁶ , 1000 ⁶⁷ , 100 ⁹³ , 142 ⁴⁷

ED, emergency department; SQDS, Structured Questionnaire Designed for this Study.

Data items

Data from each article were initially extracted related to its characteristics namely: authors, year, country, purpose, methods, instrument, context, results and main conclusions (<https://osf.io/mabgv/>). Later information about the instruments was reorganised by context: emergency department (ED), NICU, paediatric ward and PICU.

Critical appraisal of individual sources of evidence

To evaluate the quality of articles sample (n=65), studies were appraised individually by each author. Divergent opinions were discussed until agreement. For critical appraisal, a four-grade assessment tool⁹² was used and higher scores indicate higher quality. Total score ranged between 19 and 36 (online supplemental file 1).

Synthesis of results

After screening each article, results were combined in a table that included evidence from all articles extracted separately and approved by both authors. To facilitate synthesis of results presentation, information about the instruments was reorganised by context, in four distinctive tables, and by type of instrument in three additional tables.

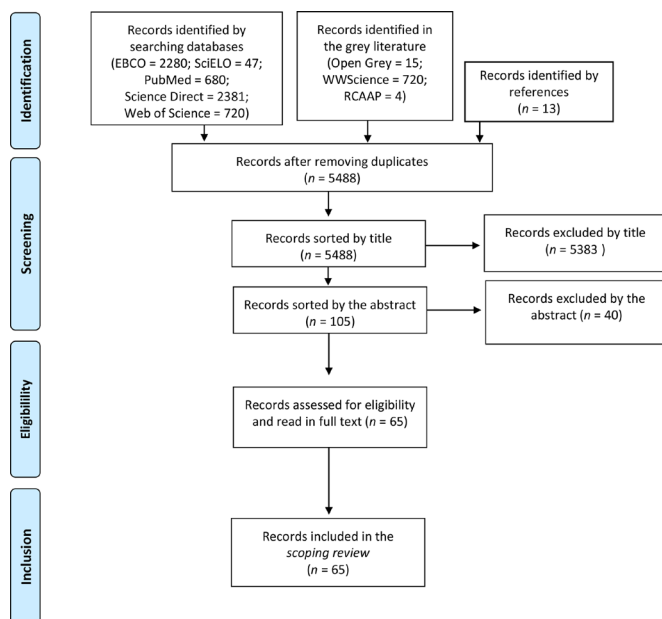


Figure 1 PRISMA flow chart of study selection. PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses; RCAAP, Portuguese Scientific Open Access Repository.

RESULTS

Selection of sources of evidence

From our initial sample of 5488 articles, a total of 65 articles were included in this review. Reasons for article exclusion included: use of qualitative methodology; articles that evaluated other concepts (eg, parent's needs), and when satisfaction evaluation considered exclusively other care dimensions (eg, medical care). Study selection process is summarised in figure 1 using PRISMA flow chart.

Characteristics of sources of evidence

A total of 38 instruments were identified applied in four main hospital contexts: ED, NICU, paediatric wards and PICU. Most were quantitative studies with the application of only one instrument. Regarding ED, a total of four different instruments were found that were purposively designed for each study as shown in table 1.

Regarding NICU, a variety of different instruments were found that were adapted, purposively designed or validated for this specific context. Results were summarised in table 2.

As anticipated, instruments applied to parents of children hospitalised in paediatric wards were quantitatively the most representative ones. Table 3 summarises our findings.

Regarding PICU, fewer instruments were identified. Studies applied in PICU context were summarised in table 4.

Additionally, because this review focuses on instruments, its characteristics were synthesised in tables, by type of instrument, related to the following items: instrument name, domains designation, overall satisfaction assessment, number of items, assessment scale, reliability, validity and distribution. The instrument that was found more often was the EMPATHIC. Therefore, we chose to synthesise its characteristics as used in studies in table 5.

We located several studies that adapted or purposively designed the instruments for the study. Table 6 details the instruments found.

Additionally, other instruments were found in literature as summarised in table 7.

Critical appraisal within sources of evidence

Overall, studies quality was quite high. Quality appraisal ranged from 19 to 36. Sampling, ethics and bias, and implications and usefulness were the main limitations of the studies (online supplemental table 1).

**Table 2** Characteristics of the instruments applied in NICUs

Context	Instruments	Methods	Participants	Sample
NICU	MSQ	Quantitative ²³	Mothers ²³	110 ²³
	MPASSQ	Quantitative ²⁴	Mothers ²⁴	210 ²⁴
	NSS	Methodological ³⁹ Quantitative ⁴⁰	Parents ^{39 40}	105 ³⁹ , 568 ⁴⁰
	NInPS	Quantitative ²⁵	Mothers ²⁵	70 ²⁵
	EMPATHIC-30	Methodological ⁵⁷	Parents ⁵⁷	282 ⁵⁷
	EMPATHIC-38	Methodological ⁵⁷ Quantitative ⁶⁸	Parents ^{57 68}	282 ⁵⁷ , 300 ⁶⁸
	EMPATHIC	Methodological ³² Quantitative ⁶⁹	Parents ^{32 69}	148 ³² , 340 ⁶⁹
	EMPATHIC-N	Methodological ^{33 55 57-59}	Parents ^{33 55 57-59}	162 ⁵⁸ , 13 ⁵⁵ , 279 ³³ , 282 ⁵⁷ , 256 ⁵⁹
	PSS	Quantitative ⁶⁹	Parents ⁶⁹	340 ⁶⁹
	NPSQ	Methodological ²⁶	Parents ²⁶	400 ²⁶
	SQDS	Quantitative ^{27 48 94} Methodological ²⁸	Mothers ⁴⁸ Parents ^{27 28 94}	100 ⁴⁸ , 300 ²⁷ , 300 ²⁸ , 117 ⁹⁴
	NICU survey	Quantitative ⁹⁵	Parents ⁹⁵	147 ⁹⁵
	NICU- PSF NPST	Quantitative ³⁴	Parents ³⁴	48 ³⁴

EMPATHIC-N, Empowerment of Parents in the Intensive Care-Neonatology; MPASSQ, Maternal Postnatal Attachment Scale Structured Questionnaire; MSQ, Modified Satisfaction Questionnaire; NICU, neonatal intensive care units; NInPS, Neonatal Index of Parental Satisfaction; NPQS, Neonatal Parent Satisfaction Questionnaire; NPST, Nurse Parent Support Tool; NSS, Neonatal Satisfaction Survey; PSF, Parent Satisfaction Form; PSS, Parental Satisfaction Survey; SQDS, Structured Questionnaire Designed for this Study.

Results of individual sources of evidence

Results from each study are synthesised and publicly available at <https://osf.io/mabgv/>. Additionally, seven tables integrated in this manuscript were created to resume instrument characteristics by context and type of instrument.

Synthesis of results

From the 65 articles sample, studies were carried out in a wide range of countries: Iran²³⁻³¹ with 9 studies, Netherlands³²⁻³⁸ with 7 studies, and Norway,³⁹⁻⁴² Poland,⁴³⁻⁴⁶ Portugal⁴⁷⁻⁵⁰ and Turkey⁵¹⁻⁵⁴ with 4 studies. Most studies were applied in paediatric wards (n=28), followed by NICU (n=21), PICU (n=9) and EDs (n=7). Sample size ranged from 13⁵⁵ to 3354³⁷ and 3 studies^{41 54 56} used mixed methods, 20 studies^{26 27 32 33 35 36 39 46 49 55 57-65} were methodological of instruments construction or validation and 43 studies^{23-25 29 30 38 40 43-45 50 51 66-78} were quantitative.

Most studies reported a single use of instrument and didn't integrate any clinical application of its results. Instrument development or its adaptation/validation was fully explained in most studies. Globally, all studies reported that instruments were easy to complete or had minor issues that were addressed by researchers. A total of 38 instruments were found as following: 21 instruments previously validated, 3 adapted instruments and 14 structured instruments purposively designed for the study. The numbers of domains in each study ranged from 1 to 13. In 53 studies, overall satisfaction was assessed as a formal question or by average results. The total number of items was not reported in 6 studies and in the remaining it ranged between 13 and 92 items. Only 15 studies clearly stated that the instrument had open-ended

question/free space for additional comments. All studies used Likert scales and a five point-Likert scale was the mostly used (n=29). In five studies, instruments included more than one assessment scale such as dichotomous or Visual Analogue Scales. Regarding psychometric properties, instrument reliability was not reported in 16 studies. Reliability was measured through internal consistency assessment or other combined statistical methods (factor analysis and test-retest) in the remaining 49 studies. In 28 studies, validity was not assessed, and in the other 37, it was assessed through content validity or through a combination of different approaches (construct validity, face validity, concurrent validity, congruent validity, discriminant validity and non-differential validity).

DISCUSSION

From the 65 studies identified, a total of 38 instruments were found to evaluate parents' satisfaction with care. This high number dues to the fact that we cover all contexts of hospital care. Studies came from all around the globe: Argentina, Australia, Brazil, Denmark, England, France, Greece, Iceland, India, Iran, Italy, Jordan, Kenya, Kingdom of Saudi Arabia, Korea, Mexico, Netherlands, Norway, Poland, Portugal, South Africa, Spain, Sweden Switzerland, Turkey, USA, UK and Vietnam. This shows the relevance and importance of this theme. Most studies have been conducted in high income countries, which may reflect the growing concern in the use of satisfaction as an indicator of health quality.

Our initial goal was to identify instruments aimed at nursing care. However, it became evident that most

Table 3 Characteristics of the instruments applied in paediatric wards

Context	Instrument	Methods	Participants	Sample
Paediatric ward	PFSQ	Quantitative ^{29 30 70} Methodological ⁶⁰	Mothers ^{29 30 70} Parents ⁶⁰	164 ²⁹ , 848 ⁶⁰ , 200 ³⁰ , 127 ⁷⁰
	PedsQLFIM; PedsQLHSHOM; SDQ	Quantitative ⁷¹	Parents ⁷¹	113 ⁷¹
	FDQF; PHPSS; FCCS	Quantitative ⁵¹	Parents ⁵¹	285 ⁵¹
	PEPC	Mixed methods ⁴¹ Quantitative ⁴²	Parents ^{41 42}	3308 ^{41 42}
	PIPIST	Quantitative ⁵⁶	Parents ⁵⁶	206 ⁵⁶
	PASAT PEDIATRIA package	Quantitative ⁴³	Parents ⁴³	293 ⁴³
	EMPATHIC	Quantitative ^{44 45} Methodological ⁴⁶	Parents ^{44 46}	336 ⁴⁴ , 1030 ⁴⁵ , 115 ⁴⁶
	CSNCS	Methodological ⁴⁹	Parents ⁴⁹	251 ⁴⁹
	SPQ	Quantitative ^{72 96}	Parents ^{72 96}	206 ⁷² , 352 ⁹⁶
	FSQ	Quantitative ³¹	Parents ³¹	70 ³¹
	MPC	Quantitative ⁹⁷	Parents ⁹⁷	117 ⁹⁷
	IFPSQ; PedsQLHSGM; IEFQ; CHIP	Quantitative ⁹⁸	Parents ⁹⁸	177 ⁹⁸
	SQDS	Quantitative ^{52 53} ^{73–76 99}	Mothers ⁷³ Parents ^{52 53 74} ^{75 99} Families ⁷⁶	292 ⁷³ , 780 ⁷⁴ , 170 ⁷⁵ , 160 ⁵² , 50 ⁷⁶ , 40 ⁵³ , 624 ⁹⁹
	PNCST; PedsQLHCST	Mixed methods ⁵⁴	Parents ⁵⁴	80 ⁵⁴
	NSNCS	Quantitative ⁵²	Parents ⁵²	160 ⁵²
PHOPSS	Methodological ⁶¹	Parents ⁶¹	113 ⁶¹	

CHIP, Coping Health Inventory for Parents; CSNCS, Citizen Satisfaction with Nursing Care Scale; EMPATHIC, Empowerment of Parents in the Intensive Care; FCCS, Family-Centred Care Scale; FDQF, Family Descriptive Questionnaire Form; FSQ, Family Satisfaction Questionnaire; IEFQ, Icelandic-Expressive Family Functioning Questionnaire; IFPSQ, Icelandic-Family Perceived Support Questionnaire; MPC, Measurement of Process of Care; NSNCS, Newcastle Satisfaction with Nursing Care scale; PedsQLFIM, Paediatric Quality of Life Family Impact Module; PedsQLHCST, Healthcare Satisfaction Tool; PedsQLHSGM, Paediatric Quality of Life Healthcare Satisfaction Generic Module; PedsQLHSHOM, Paediatric Quality of Life healthcare satisfaction haematology/oncology module; PEPC, Parent Experiences of Paediatric Care; PFSQ, Paediatric Family Satisfaction Questionnaire; PHOPSS, Paediatric Haematology/Oncology Parent Satisfaction Survey; PHPSS, Paediatric Quality of Life Healthcare Parent Satisfaction Scale; PIPIST, Picker Institute Paediatric Inpatient Survey tool; PNCST, Patients' Nursing Care Satisfaction Tool; SDQ, Strengths and Difficulties Questionnaire; SPQ, Swedish Pyramid Questionnaire; SQDS, Structured Questionnaire Designed for this Study.

instruments consider it as a domain of satisfaction. Only two instruments focused specifically on nursing care: Citizen Satisfaction with Nursing Care Scale for parents of hospitalised children (CSNCS)⁴⁹ and Newcastle

Satisfaction with Nursing Care scale (NSNCS).⁵² Furthermore, CSNCS is based on NSNCS.

Additionally, the Family Paediatric Satisfaction Questionnaire includes two subscales. The first one measures

Table 4 Characteristics of the instruments applied in PICUs

Context	Instrument	Methods	Participants	Sample
PICU	PSS	Quantitative ¹⁰⁰	Parents ¹⁰⁰	123 ¹⁰⁰
	PPACQ	Methodological ⁶²	Parents ⁶²	100 ⁶²
	EMPATHIC	Methodological ^{35–37} Quantitative ³⁸	Parents ^{35–38}	364 ³⁵ , 559 ³⁸ , 1218 ³⁶ , 3354 ³⁷
	EMPATHIC-30	Quantitative ^{77–80}	Parents ^{77 79 80} Relatives ⁷⁸	256 ⁷⁹ , 100 ⁸⁰ , 150 ⁷⁷ 181 ⁷⁸
	EMPATHIC-65	Methodological ⁶³ Quantitative ⁶⁴	Parents ^{63 64}	172 ⁶³ , 150 ⁶⁴
	SQDS	Quantitative ⁶⁵	Parents ⁶⁵	110 ⁶⁵

EMPATHIC, Empowerment of Parents in the Intensive Care-Neonatology; PICU, Paediatric Intensive Care Unit; PPACQ, Pickers's Paediatric Acute Care Questionnaire; PSS, Parent Satisfaction Survey; SQDS, Structured Questionnaire Designed for this Study.

**Table 5** Characteristics of the EMPATHIC instrument

Instrument	Domains designation	Overall satisfaction or assessment	No of items	Open-ended questions/free space	Assessment scale	Reliability	Validity	Distribution	
EMPATHIC ^{32 33 35-38 45 46 55 57-59 63 64 68 77-80}	Information, care and treatment, availability, parental participation and professional attitude.	Yes (AV)	30	NR	5-point LS	IC	CtV	At least 24 hours AD ⁷⁸	
		NR	74	Yes	NR	IC	CV	NR ³⁵	
		NR	78	NR		10-point LS	IC; CFA	NR	2-3 weeks AD ³⁸
		NR	30	NR		6-point LS	IC	CgV; NDV	2-3 weeks AD ³⁷
		Yes (AV)	30	NR		6-point LS	IC	CV	AtD ⁷⁷
		NR	65	NR		6-point LS	IC	CvV	After 1 DH ⁶³
		NR	57	NR		5-point LS	IC; CFA	NR	AtD ⁵⁹
		Yes (AV)	30	NR		9-point LS	IC	CgV; NDV	The day before discharge or AtD ⁷⁹
		Yes (AV)	30	Yes		5-point LS	IC	NR	After 2 DH ⁸⁰
		Yes (AV)	38	NR		6-point LS	IC	CcV	AtD ⁶⁸
		Yes (AV)	38	NR		6-point LS	IC	CV; CtV; DV	AtD ⁵⁷
		Yes (AV)	39	NR		5-point LS	NR	NR	After >3 DH ^{44 45}
		Yes (AV)	57	Yes		6-point LS	IC; CFA	CgV; NDV	AtD or 3 days AD ⁵⁸
		Yes (AV)	57	Yes		6-point LS	IC	CV	NR ⁵⁵
		Yes (AV)	57	NR		6-point LS	IC	CgV; NDV	3-4 weeks AD ³³

AD, after discharge; AtD, at discharge; AV, average result; CcV, concurrent validity; CFA, confirmatory factor analysis; CgV, congruent validity; CtV, construct validity; CV, content validity; CvV, convergent validity; DH, days of hospitalisation; DV, differential validity; EFA, exploratory factor analysis; FC, face validity; IC, internal consistency; LS, Likert Scale; NDV, non-differential validity; NR, not reported.

Table 6 Characteristics of structured instruments adapted/designed purposively for the study

Instrument	Domains designation	Overall satisfaction or assessment	No of items	Open-ended questions/free space	Assessment scale	Reliability	Validity	Distribution
SQAS ^{23,24,98}	Parental presence, participation in neonatal care and information about neonatal care.	Yes (AV)	18	NR	4-point LS	IC	CV	After 1 DH ²³
	Accessibility, medical treatment, care processes, staff attitudes, participation and staff work environment	Yes	63	NR	4-point LS	IC and CFA	CV and CV	NR ⁹⁹
	Emotional, communicative-informative, esteem support and Instrumental care	Yes (AV)	25	NR	5-point LS	IC	CV	NR ²⁴
SQDS ^{28,48,50,53,61,65-67,73-76,94}	Care and treatment, communication, and hospital environment	Yes	22	NR	5-point LS	IC	NR	After >7 DH ⁶⁹
	Caring behaviour, technical nursing care, information, availability and continuity of care, and personal and environmental needs.	yes (AV)	27	NR	4-point LS	IC	CV	NR ⁷³
	Access to care and treatment, information and communication related to care and treatment, information related to practical conditions around the ward, physicians' behaviour, nurses' behaviour and access to service	Yes (AV)	36	NR	5-point LS	IC	NR	AtD ⁷⁵
	Questionnaire based on 14 quality standards for emergency admittances to a paediatric department.	Yes (AV)	19	Yes	5-point LS	NR	NR	AtD ⁷⁴
	Waiting time, ward decor, privacy, quality of food, access to play, recreational facilities, manner of nurses, and level of noise, pain, or discomfort	Yes	NR	Yes	NR	NR	NR	NR ⁷⁶
	Parent perceptions of waiting time, environment/facilities, professionalism and communication skills of staff	Yes	13	NR	5-point LS	IC	CV	NR ⁶⁶
	Personnel, structure and quality of the facility, perceived length of waiting times, and the child-friendliness of the ED environment.	Yes	21	NR	7-point LS	IC	NR	Discharged in the last from ED in the last 3 years ⁶⁷
	General aspects, access, patient admission, personnel, treatment and exams, facilities and expectations.	Yes	17	Yes	5-point LS and dichotomous.	NR	NR	NR ⁵⁰
	Communication, concern, information, caring, participation, education and support	Yes (AV)	NR	NR	5-point LS	IC	NR	NR ⁴⁸
	interpersonal relationships with staff, parental involvement, staff competence and services offered by the health system	Yes (AV)	15	Yes	3-point LS	NR	NR	After >7 DH ⁹⁴
	Admission process, staff, environment/services, treatment interventions and treatment outcome	Yes (AV)	19	NR	5-point LS	NR	NR	NR ⁵³
	Child's admission, information and communication, parental support, environment and facilities, parents' perceptions of the standard of care and the discharge processes.	Yes (AV)	NR	Yes	3-point and 5-point LS	NR	CV and FC	Posted within 4 days AD ⁶⁵
	Welfare, nursing care, medical care	Yes (AV)	49	NR	5-point LS	IC and EFA	CV	NR ²⁷
	Welfare, nursing care, medical care	Yes (AV)	49	NR	5-point LS	IC and EFA	CV and CV	NR ²⁸

AD, after discharge; AtD, at discharge; AV, average result; CcV, concurrent validity; CFA, confirmatory factor analysis; CgV, congruent validity; CV, content validity; CV, convergent validity; DH, days of hospitalisation; DV, differential validity; ED, emergency department; EFA, exploratory factor analysis; FC, face validity; IC, internal consistency; LS, likert scale; NDV, non-differential validity; NR, not reported; SQAS, Structured Questionnaire Adapted for this Study; SQDS, Structured Questionnaire Designed for this Study.

Table 7 Characteristics of the remaining instruments

Instrument	Domains designation	Overall satisfaction or assessment	No of items	Open-ended questions/free space	Assessment scale	Reliability	Validity	Distribution
CSNCC ⁴⁹	Nursing Care Experiences scale and Opinions on Nursing Care scale.	No	47	Yes	7-item LS and 5-item LS	IC and CFA	CtVy	After 1 DH
FPSQ ⁷⁰	Hospitalisation services and satisfaction with nursing care	No	18	NR	5-point LS	NR	NR	After>3 DH
FSQ ³¹	Participatory care, educational support and psychological support.	Yes (AV)	30	NR	5-point LS	IC and EFA	CV	NR
MPC ³⁷	Enabling and partnership, providing general information, providing specific information, coordinated and comprehensive care, and respectful and supportive care.	Yes (AV)	20	NR	7-point LS	IC	NR	NR
NlnPS ²⁵	NR	Yes (AV)	20	NR	7-point LS	IC	CV	third and 10th day of hospitalisation
NSS ³⁹⁻⁴⁰	Care and treatment, doctors, visits, NICU facility, siblings, information, parent anxiety, and discharge.	Yes (AV)	51	NR	5-point LS	IC	NR	AtD ⁴⁰
	Staff, admission, nurses, anxiety, siblings, information, timeout, doctors, facilities, nutrition, preparation for discharge, trust and visitors.	NR	42	Yes	NR	IC	CV	NR ³⁹
NSNCS ⁵²	NR	NR	19	NR	5-point LS	NR	NR	NR
NICUPSQ ²⁶	Care and treatment, information, hospital facilities, parental education and parental participation.	NR	59	NR	6-point LS	IC and EFA	FC; CV; CtV	AtD
NICU Survey ⁵⁵	Delivery, environment, nurses, physicians, discharge, personal and overall assessment	Yes (AV)	42	NR	5-point LS	NR	NR	60 days AD
NICUPFF ³⁴	General satisfaction, continuity of care, communication and information, preparedness, involvement in care, being a parent, being near the baby, support and follow-up.	Yes (AV)	62	Yes	5-point LS; frequency and dichotomous.	IC	CV and discriminant validity	AtD
PEPCQ ^{41,42}	Nursing services, doctor services, organisation, information: examinations and tests, information: discharge, and hospital facilities.	Yes	25	NR	5-point LS	IC; EFA; Test-retest	CtVy	Mailed AD
PSS ¹⁰⁰	Environment, childcare and communication	Yes (AV)	24	Yes	5-point LS	NR	NR	After 2 DH
PASAT PEDIATRIA package ⁴³	Admission to hospital, emergency room, hospitalisation, medical care, nursing care and other aspects of hospital stay	Yes (AV)	26	NR	5-point LS	NR	NR	After>3 DH
PFSQ ^{29,30,60}	Medical care, nursing care and welfare services.	Yes (AV)	28	NR	5-point LS	IC	NR	AtD ²⁹
	Hospital services and accommodations, nursing care, medical care and child life therapy.	Yes (AV)	35	NR	NR	IC	CtVy	NR ⁶⁰
	Medical care, nursing care and accommodations.	Yes (AV)	28	NR	5-point LS	Test-retest	CV	AtD ³⁰
PHOPSS ⁶¹	General satisfaction, communication and interaction style, information amount and timeliness, and emotional support.	Yes	24	NR	5-point LS	IC and EFA	CV	Mailed AD

Continued

Table 7 Continued

Instrument	Domains designation	Overall satisfaction or assessment	No of items	Open-ended questions/free space	Assessment scale	Reliability	Validity	Distribution
PedQLHCST ⁵¹ <small>54/71/98</small>	Knowledge, technical skills, emotional needs, family involvement, communication and overall satisfaction.	Yes	25	NR	5-point LS	IC	CV	After>3 DH ⁵⁴
	General satisfaction, information, inclusion of family, communication, technical skills and emotional need.	Yes (AV)	25	NR	5-point LS	NR	FC	NR ⁷¹
	NR	Yes (AV)	NR	NR	5-point LS	IC	NR	At re-hospitalisation ⁵¹
	Information, family inclusion, communication, technical skills, emotional needs and overall satisfaction.	Yes	24	NR	5-point LS	IC	NR	NR ⁹⁸
PIPIST ⁵⁶	Information and education to the parent/child, coordination of care, physical comfort, emotional support, respect for patient's preferences, involvement of family, continuity and transitio, and overall impression of quality of care.	Yes	NR	NR	NR	IC	FC	NR
PPACQ ⁶²	general impression; accessibility and availability of doctors and nurses; consideration and respect; coordination and integration of care; Information and communication; relationship between parents and health team; physical comfort and continuity of care	Yes	37	NR	5-point LS	IC	CV and FC	After>3 DH
SPQ ^{72/96}	Accessibility, staff attitudes, care processes, information about their child's state of health, information about routines, medical treatment, parent participation and staff work environment	Yes	63	NR	4-point LS; Visual Analogue Scale (1–10)	IC and CFA	NR	After>3 DH ⁷²
	Information on illness, information on routines, accessibility, medical treatment, care processes, staff attitudes, parental participation and the staff work environment.	Yes	68	NR	4-point LS	IC	NR	After>3 DH ⁹⁶
USAQ ⁴⁷	General aspects, access, admission of patients, staff, exams and treatments, facilities, and expectations.	NR	NR	Yes	4-point LS	NR	NR	AtD

AD, after discharge; AID, at discharge; AV, average result; CcV, concurrent validity; CFA, confirmatory factor analysis; CgV, congruent validity; CSNCC, Citizen Satisfaction with Nursing Care Scale; CV, construct validity; CV, content validity; CW, convergent validity; DH, days of hospitalisation; DV, differential validity; EFA, exploratory factor analysis; FC, face validity; FPSQ, Family Paediatric Satisfaction Questionnaire; FSQ, Family Satisfaction Questionnaire; IC, internal consistency; LS, Likert Scale; MPC, measurement of process of care; NDV, non-differential validity; NICUPPF, Neonatal Intensive Care Unit Parent Satisfaction Questionnaire; NICUPSQ, Neonatal Intensive Care Unit Parents Satisfaction Questionnaire; NInPS, Neonatal Index of Parental Satisfaction; NR, not reported; NSNCS, Newcastle Satisfaction with Nursing Care Scale; NSS, Neonatal Satisfaction Survey; PedQLHCST, Paediatric Quality of Life Healthcare Satisfaction Tool; PEPCQ, Parent Experience of Paediatric Care Questionnaire; PFSQ, Paediatric Family Satisfaction Questionnaire; PHOPSS, Paediatric Haematology/Oncology Parent Satisfaction Survey; PIPST, Picker Institute Paediatric Inpatient Survey tool; PPACQ, Picker's Paediatric Acute Care Questionnaire; PSS, Parental Satisfaction Survey; SPQ, Swedish Pyramid Questionnaire; USAQ, Users Quality and Satisfaction Assessment Questionnaire.



general aspects of hospitalisation such as hygiene and noise and the second evaluates satisfaction with nursing care on the following domains: treatment, kindness, knowledge and nursing staff skills, continuity of care, information on the state of health and mother involvement in care.⁷⁰ From a theoretical point a view, it makes sense to distinguish the satisfaction with nursing care from other dimensions of care. However, from the respondent perspective, it may be difficult for parents to individualise their assessment because they may not know how to distinguish the role of the nurse in relation to other professionals.

From the 38 instruments identified, the Empowerment of Parents in the Intensive Care (EMPATHIC) was the most frequently found. It was designed to measure both parental experiences and satisfaction with care provided. It includes five domains (information, care and treatment, availability, parental participation and professional attitude) and initially had 92 items³² that were later reduced to a shorter version with 30 items.³⁷ It is an instrument primarily used in PICU^{35 36 38 63 77–80} or NICU^{32 33 55 57–59 68 69}; however, it has been successively used in paediatric wards,^{44–46} and was also adapted to evaluate family satisfaction in adult intensive care units.⁸¹ Psychometric properties of this instrument have been extensively evaluated.

The most striking result to emerge from this review was the number of structured instruments purposively designed (n=14). Although there are many existent instruments, researchers continue to develop additional ones. We believe that the diversity of hospital settings may lead researchers to construct a different instrument that is more tailored to a particular context and/or population.

Also, although satisfaction with nursing care is an indicator widely considered by health organisations for quality assessment,¹¹ this research clearly shows that there is still a gap in literature on the range of aspects that influence satisfaction. This review identified few instruments that were specific to nursing care or consensual dimension that should be integrated in such instruments. Despite the two identified instruments (CSNCS and NSNCS) that evaluate the experience with nurses, it is essential that instruments can detail nursing dimensions and how nursing interventions influence parents' satisfaction.

Another important aspect was the difficulty to find generalisable studies, which may be related to the fact that there is no homogeneity in nursing tasks and skills across countries, cultures and settings. Also, since the instruments have been developed primarily to assess parent satisfaction with specific aspects of care mostly in NICU and PICU, they have little potential for other settings.

Personal and sociodemographic characteristics as well as the type of care provided influences the level of satisfaction with nursing care.⁸² However, literature relating satisfaction with these characteristics has inconsistent results⁸³ and additionally, these are aspects cannot be changed.

For decision-makers, it makes sense to have more generic instruments that allow organisational decisions to be made (concerning professional ratios, physical structure, equipment and environment among others), to achieve high ratings of satisfaction and improve the quality-of-service delivery.⁸⁴ However, healthcare professionals' performance is one of the main drivers of overall patients' satisfaction, and nursing care is the most critical determinant of patient satisfaction.⁸⁵ Selecting an appropriate parent satisfaction instrument is still a critical challenge for healthcare organisations.

Regarding the data collection methodology studies are not unanimous as to the moment of application of the instruments. However, they were all applied in a period of more than 24 hours of hospitalisation, which apparently allows enough time for an opinion to be formed about the satisfaction with the care received. This inconsistency reveals the fragility of satisfaction surveys, as the moment of application of the questionnaire may influence the perception of the respondent and the specific aspects of care, they value the most. Parents whose child has been admitted to an intensive care unit in the last 24 hours and is still in a critical health condition, may be focused on specific aspects of care that diverge from other parents whose child is already stabilised. The concerns regarding the validity of patient satisfaction measures to accurately quantify inpatient experience and the limitations related to its modes of administration is well documented in literature.^{86 87} If there is no unanimity, the time of application of the questionnaire should be considered a determinant of satisfaction and be analysed individually.

Another relevant aspect is that not all studies report having a specific question to assess overall satisfaction. Some studies extrapolate this value through the remaining items, which may not reflect the respondent real perception⁸⁸ and miss other aspects of care that have more weight in overall parental satisfaction.

This also bring us to the need for an open-ended question, as most of our studies did not report it. Despite this type of questions has been highly recommended as a method for improving patient satisfaction surveys, they are still underused. Notwithstanding the complex data processing of patients' comments, from the analysis of open responses, important dimensions not previously covered can emerge.⁸⁹ Also, the verbatim responses can help researchers to understand what is behind a score, allowing a more detailed and reliable interpretation of the results.⁹⁰

In the identified instruments, we found a wide range of satisfaction assessment items, with a tendency towards excess (ranging from 13 to 92). Although an extensive questionnaire provides a great amount of information, data processing and respondents filling may also be exhaustive, and suboptimal participation rates can be achieved. This phenomenon is defined as response burden and results in low response rates. It is usually used as an incentive to develop brief instruments and abbreviate the existing ones.⁹¹ Our review supports this aspect,

since some instruments found were adapted to reduce the number of items.^{37 40}

A general concern with the shortening of instruments is validity and reliability, as items reduction may result in a limited scope and can make the instrument insensitive to changes.⁹¹ It is important to note that in most studies there was a concern to evaluate instruments psychometric properties. For reliability most studies calculated the internal consistency through Cronbach's alpha. Previously literature reviews identified the lack of validated instruments and the need for greater rigour in its application.^{16 17} These measurements are mandatory to guarantee the scientific validity of the studies. Despite this, our findings suggest an improvement compared with previous literature reviews.¹⁴⁻¹⁷

Social desirability bias in instrument application was not addressed as our quality appraisal has shown. However, this is an important issue directly related to instrument application procedure⁹² that needs to be addressed in future studies.

As to limitations we must consider the possibility of having excluded or missed some relevant studies due to the scoping protocol applied. Different databases, time frame or language selection could lead to the identification of other instruments. Additionally, we verify that some studies did not clearly identify instruments characteristics or provide the instrument itself leading to difficulty in instrument information extraction.

CONCLUSIONS

This review allowed the identification and description of existent instruments to evaluate parents' satisfaction with nursing care. A total of 38 instruments were found; however, only two instruments assess specifically satisfaction with nursing care. In all the others nursing care appears as a domain of satisfaction. Studies are consensual in the need to evaluate communication, information, environment, care participation and support as major dimensions of nursing care. The need to include specific aspects of nursing care in satisfaction instruments appears as a major conclusion in this review. Also, attention is needed toward methodological aspects such as: the inclusion of an overall satisfaction assessment question and open-ended questions to better assess parents' satisfaction and integrate aspects not considered in the instrument. The timing of questionnaire distribution could be crucial as it influences satisfaction ratings. This review clearly shows that there is still a gap in literature on the range of aspects that influence satisfaction and a lack of consensus on ideal conditions for instruments use and application. It is essential that instruments can detail nursing dimensions and how nursing interventions influence parents' satisfaction. Selecting an appropriate parent satisfaction instrument is still a critical challenge for healthcare organisations.³⁵ As to clinical implications, this scoping review may provide guidance and advice for researchers to find a suitable instrument to assess

parents' satisfaction based on instrument characteristics and its validity.

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