



Original Article

The need for practice enhancements and parental empowerment during their child's day surgery process: A pilot study

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Abstract

Background: Perioperative experiences leave a lasting psychosocial impact on the parents of children undergoing surgery.

Methods: A phenomenological study design recruited parents of children undergoing day surgery using purposive sampling. Semi-structured face to face interviews were conducted two weeks postoperatively.

Results: Thematic analysis revealed 6 main themes with 12 sub-themes. Although the parents acknowledged the emotional support and tangible assistance from the healthcare team, mostly the themes revealed negative perceptions of the unique processes within paediatric day surgery.

Conclusions: Parents' feelings of anxiety, stress, helplessness and the pressure to be seen as a resource of physical and emotional support during their child's perioperative period were expressed by them as their needs for additional information and counselling, remote access to the primary healthcare team postoperatively and advice on coping strategies. Practice enhancements using technology and innovative playtherapy in combination with active parental participation may make day surgery a positive experience for both parents and children.

Keywords: Child, Day Surgery, Parents, Perceptions, Qualitative

Background

Developments in anaesthesia, surgical techniques and paediatric perioperative care have increased the safety

of paediatric day-surgery¹. Reportedly, parents of paediatric patients may have feelings of their child's vulnerability in specific healthcare situations such as major surgery^{2,3}. This perception of safety-risks may be further aggravated in short-stay paediatric surgery⁴. While recent studies have explored parents' perceptions while waiting and while preparing their children for elective inpatient surgery^{5,6}, the literature is scant about the lived experiences of parents when their children undergo day-surgery^{7,8}. Hence, we performed this study to achieve a thematic description of the common elements from the parents' embodied experiences during their child's day-surgery in the department of paediatric surgery within a large tertiary hospital which could serve to inform policy change and future practice.

Methods

A descriptive, qualitative study was conducted in the department of paediatric surgery at a 1200-bedded public tertiary hospital and principal teaching institution in Singapore. A phenomenological approach was adopted. In simple terms, phenomenology can be defined as an approach that seeks to describe the essence often experience by exploring it from the perspective of those who have experienced it. The goal of phenomenology is to describe the meaning of this experience-both in terms of what was experienced and how it was experienced. This approach allowed for a close examination of the experiential and

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interpretative reality of the parents' lived experiences and yield rich thematic descriptions for detailed insights, new meanings and appreciations⁹.

Ethics approval for the study was obtained from the institutional review board (Reference: 2018/00797). Written consent was obtained from all participants.

Current practice

Parents and children are counseled from the pre-admission clinic sessions with the specialist surgeons and again, separately with a clinic nurse on the same day. Counseling includes various aspects of the surgery, the admission process, the procedures after admission until discharge, the analgesia starting from the immediate post-operative period in the hospital to the management of their child's postoperative pain at home until follow-up review in clinic. Pre-admission outpatient anaesthesia consultation is not routine; this is done upon admission to the ward prior to surgery. One parent accompanies their child to inside the operation theatre until induction of anaesthesia; after which the parent leaves the operation theatre for the surgeon to perform the surgery. After surgery, the parent is called to the post-anaesthesia recovery room to attend to the child. Thereafter, there is a period of observation in the ward with both parents in attendance and the child is discharged if well. After discharge, a follow-up review is scheduled in about 2 weeks. Parents are given the dashboard number to contact the relevant surgical team for any concerns prior to the follow-up review.

Recruitment

Parents were included if they satisfied all of the following criteria: (1) either father or mother of a child aged between 1-12 years old; (2) the main caregiver of the child; (3) able to speak and read English; (4) between 21-65 years old. Parents were excluded if they had any of the following criteria: (1) cognitive impairment; (2) hearing and/or a visual impairment(s); (3) mental disorder; (4) were parents of a child with a terminal illness such as cancer (5) had experienced bereavement within the past three months.

The purposive sampling method was used to recruit parents. Analyses of data collected from enrolled participants proceeded in parallel with recruitment of new participants.

Sample size

Data saturation was reached at the eighth participant, and one additional participant was interviewed for confirmation. In the view of Guest et al. data saturation can occur within the first twelve interviews and after that very few new phenomena are likely to emerge¹⁰. In the view of Gonzalez, when undertaking research that is reliant on a phenomenological approach, the sample size is usually driven by the need to uncover all the main variants¹¹. Furthermore, typical sample sizes for phenomenological studies range from 1 to 12^{9,12,13}. Therefore, we did not pursue recruitment after the ninth participant.

Data collection

Of the 21 parents approached, 12 declined to participate either due to unavailability to attend an interview or reluctance for the interview-audio to be recorded. A semi-structured interview guide based on previous study was developed by two experts, a surgeon (VPM) and an academic professor (HHG), for data collection^{5,14}. All face-to-face interviews were conducted in English by honours nursing student under supervision of surgeon at about 2 weeks after the child's day surgery, either in the outpatient clinic (n = 7) or at their place of residence (n = 2). The interviews lasted between 40 and 90 minutes. The same researcher conducted all the interviews to maintain consistency in interviewing and to allow for carryover from one interview to the next for a more organic understanding of the issues.

Data analysis

The transcription of verbatim from audio recordings of the interviews was performed within 24 hours after each interview by the same researcher. Pattern identification was performed by familiarization with key phrases within the data through transcribing, followed by generation of initial codes, establishing and then reviewing sub-themes and themes. Data were constantly evaluated and compared throughout the process of data collection and data analysis until data saturation was reached. A thematic map was then developed to visually represent codes, sub-themes and themes. The process of generating codes and forming sub-themes and themes was reviewed together with a senior author.

Table I : Strategies adopted to ensure rigour in the study

Phase	Strategies	Cred.	Trans.	Dep.	Conf.	Auth.
Throughout study process	- Preliminary visit	x				x
	- Building rapport	x				x
	- Audit trail			x		
Data collection	- Audio recording	x				x
	- Verbatim transcription	x				x
Data analysis	- Peer review			x		
Presentation of findings	- Thick descriptions		x			x
	- Relevant participant quotations		x		x	x
	- Provision of researcher credentials	x				

Cred. - Credibility; Trans.-Transferability; Dep.-Dependability; Conf.-Confirmability; Auth.-Authenticity

Using the stipulated guidelines and definitions provided by Cope¹⁵, Houghton et al¹⁶, Johnson & Rasulo¹⁷ and Morse¹⁸, we adopted the strategies summarized in table 1 to ensure rigour in our study.

Results

Table-II: Participant characteristics

Code	Age of parent (years)	Gender of parent	Ethnicity	Marital status	Highest education	Employment status	Number of children	Any previous hospitalization ? (Parent/ Child)	Type of child's surgery	Age of child (years)
P1	34	Male	Chinese	Married	Diploma	Employed	2	Yes/No	Circumcision	5
P2	35	Male	Indian	Married	University degree	Employed	2	No/No	Circumcision	2
P3	49	Male	Indian-Boyanese	Married	University degree	Employed	1	Yes/No	Circumcision	7
P4	Undisclosed	Female	Chinese	Married	Undisclosed	Employed	1	Yes/Yes	Hernia repair	3
P5	29	Female	Malay	Married	'O' Level	Employed	3	Undisclosed/Yes	Circumcision	4, 6,7
P6	42	Female	Chinese	Married	University degree	Unemployed	2	Undisclosed/No	Biopsy of neck lump	9
P7	49	Male	Chinese	Married	Master's degree	Employed	1	Yes/No	Sebaceous cyst retention	13
P8	43	Female	Malay	Married	'O' Level	Employed	3	Undisclosed/No	Mucus cyst	10
P9	38	Female	Indian	Married	PhD	Employed	1	No/No	Circumcision	4

The characteristics of the parent-participants in this study revealed adherence to the maximal variation principle with a range of ethnicity (representative of the general population in Singapore), a range of age and qualifications, variation in the size of each family, and the age of the child undergoing the day-surgery. The gender distribution was near equal with fathers representing 4 out of the 9 participants.

Table III : Thematic analysis

Themes	Subthemes	Quotes
1. Fear, worry and anxiety through perioperative period	Children undergoing operation have more needs than adults who undergo similar operation (Participant 4) Worry about whether child can cope with postoperative pain (Participant 8) Child's hospitalisation creates stress for parents (Participant 2)	
2. Perception of "fast-pace" and increased risks; need for better orientation and information	2.1 Perception of increased risks. 2.2 Need for more information on anaesthesia for children	Preference to keep child in hospital overnight (Participant 4) Uncertainty over effects of general anaesthesia on their child (Participant 3) Preference for anaesthesia information well in advance and not on the day of the operation (Participant 3)
3. Difficulties and challenges in caring for their child at home	3.1 Challenges in preparing their child for surgery 3.2 Challenges in managing analgesia 3.3 Difficulty with child's behaviour 3.4 Uncertainty of what is considered as 'normal' recovery 3.5 Gaps in wound care	Prefer to have an app or a game or video to explain the process to children (Participant 3) Unsure about whether child has adequate pain relief and how to assess when child cries (Participant 4) Is child's behaviour after operation any indication of pain control? Participant 4) Prefer to have updates on what to expect weekly or periodically- say over an app for example (Participant 2) Uncertainty over whether the healing is progressing as expected (Participant 3) Uncertainty over whether parents are following instructions of wound care correctly (Participant 4) Worry that postoperative swelling is an indication of something gone wrong with the operation (Participant 8)
4. Perception of information overload and need for additional support from hospital staff	4.1 Challenges in absorbing all information 4.2 Need for direct communication with hospital team after discharge 4.3 Need for detailed communication	Preference for more information (Participant 1) Agree that information pamphlet is useful reference after discharge from hospital (Participant 2) Apprehension that parents don't have easy access to surgeons in case parents are worried about their child in postoperative period (Participant 2) Concern that parents are only free after work and routine clinics in hospital are closed (Participant 3) Detailed information will reassure the parents (Participant 3)

Table III (Cont'd)

Themes	Subthemes	Quotes
5. Need for social and psychological support from relatives	5.1 Reassurance and emotional support	Difference of opinion between mother and father creates more anxiety (Participant 2)
	5.2 Assistance in caring for the child	Close relatives can be a emotional support to parents (Participant 3) Grandparents can also support parents by looking after the child (Participant 1) Members of joint family living together are a help and also illustrations and pictures giving information are useful (Participant 8)
6. Online information to supplement the preoperative consultation	Prefer to have direct contact with the medical team in postoperative period (Participant 3) Parents on their own searched internet for information, eg; youtube videos (Participant 9)	

Six broad themes and 12 sub-themes emerged as per analysis performed by the surgeons and a nurse professor in our nursing school. Verbatim excerpts from the participants' interviews were included. All quotes were presented in their original form to preserve their meaning, the slang and the colloquial language unique to local residents.

Theme 1: Fear, worry and anxiety throughout the perioperative period

Parents reported feeling a myriad of emotions ranging from anxiety over the need for surgery, their child's ability to cope with surgery and postoperative recovery.

Theme 2: 'Perception of "fast-pace" and increased risks; thereby a call for better orientation and information

The day-surgery process (admission-surgery-postoperative observation-discharge) lasted, on an average, around 8 hours. Parents perceived this as a short duration with the risk of losing out on important information.

Sub-theme 2.1: Perception that a 'fast-paced' environment might cause risks to their child during the whole day-surgery process.

Many parents educated themselves about hospital operations from different sources before their child's admission and were familiar with the surgical setting. They were also cognisant of the minimal risks associated with minor day-surgery operations. However, they felt that their child's hospital-stay felt 'rushed' and 'incomplete' and that this would potentially lead to oversights on the part of the healthcare staff. Some parents associated a longer period of hospital observation to correlate with increased

safety and therefore they would have preferred an overnight hospital stay.

Sub-theme 2.2: Need for more information on anaesthesia in children.

Even though the induction of anaesthesia was the parents' most feared component of their child's surgery, most parents were fully counselled by the anaesthesia team only after admission on the scheduled date. They reported feeling overwhelmed when they were verbally informed just prior to the surgery and were unable to develop insights or missed seeking clarifications or discussions on anaesthetic options.

Theme 3: Difficulties and challenges in preparing their child during the pre-operative period and the care during post-operative recovery

Parents expressed feelings of helplessness and being ill-equipped to manage their child's emotional needs prior to surgery and also feeling less than competent in handling the post-operative instructions and care processes accurately.

Sub-theme 3.1: Challenges in preparing their child for the surgery.

Parents were at a loss as to what kind of mental and emotional preparation was required for their child; especially if the child was younger than 6 years (the

age for entering formal schooling in our country). For younger children, they were unsure on how much information to convey and how to phrase the information to their child. Some parents used games and videos on their portable devices as distraction techniques, whereas others turned to comforting techniques such as holding hands.

Sub-theme 3.2: Challenges in managing their child's pain and medications after discharge.

Parents considered this to be the most challenging aspect of post-discharge care. Although, most parents were diligent in administering the prescribed analgesics; their perceptions of their child's discomfort varied which led to discrepancies between instructions and actual dosages and dosing-intervals.

Sub-theme 3.3: Difficulty in coping with child's behavioural changes.

Almost all the parents noticed behavioural changes in their child after the surgery. Some parents reported observing an increased dependency and attention-seeking behaviour while others noticed their child becoming withdrawn. As a result, they felt the need to check on whether any issues with the surgery were the source of these behavioural changes; such as discomfort, pain or wound healing.

Sub-theme 3.4: Uncertainty over what is considered as 'normal recovery'.

Most parents admitted not knowing whether their child's wound was recovering well as they were unsure of the wound recovery process. As the first post-discharge appointment at the hospital took place at around two weeks after the surgery, they were anxious to know of the progress in the interim. Hence, some parents consulted a general practitioner to check on their child's wound healing regardless of any unusual symptoms.

Sub-theme 3.5: Gaps in knowledge on wound care; incomplete transfer of information and advice on discharge from hospital.

Although, post-discharge care was delivered repeatedly by the doctors and nurses, parents admitted not being able to recall the specifics of the verbal instructions on daily wound care such as the technique for proper wound cleansing. Consequently, parents used online resources to resolve their doubts or used their own judgement instead. There were some working parents who had delegated the child's care to their relatives

whereas there were others who did not remove the old dressing until the next doctor's appointment for fear of handling the wound.

Theme 4: Feeling overwhelmed with the information and need for additional support from hospital staff

Sub-theme 4.1: Challenges in absorbing all information; especially during the stressful period immediately after operation.

Parents reported feeling overwhelmed with the amount of information and instructions being provided in the time prior to discharge. They could not remember all the details and had to resort to searching for information online later on.

Sub-theme 4.2: Need for direct communication with hospital staff or surgical team after discharge to address concerns during recovery.

Parents were not able to ask all their questions regarding the child's post-surgical care since many remembered their queries as an afterthought once their child was discharged and settled at home. They also needed advice on dealing with unexpected events such as fever or rashes. Although parents were provided a telephone number to contact the hospital, they reported that it was not a direct helpline to trained healthcare staff or the surgical team, and their call had to be transferred before they could reach their consultant or healthcare team. Parents were also aware that they could return to the hospital's accident and emergency if necessary. However, most parents avoided going through that route due to the cost, waiting time and non-emergent condition of their child. As a result, parents expressed feeling helpless and, thus, either used their own judgement, searched for answers online or took their child to a private general practitioner to allay their concerns.

Sub-theme 4.3: Need for detailed communication between the healthcare staff and the parents and child together on the day of the scheduled surgery.

Parents also expressed difficulty in relaying information to their child on the day of surgery. A few parents felt that it was essential for both doctors and nurses to explain the surgery process to the child, and interact with the child during the hospital stay in order to reduce the child's anxiety.

Theme 5: Need for social and additional psychological support from relatives

Parents shared that they received emotional support and assistance from family members and friends.

Sub-theme 5.1: Reassurance and emotional support from significant others and friends.

While caring for their child, parents often sought assurance from their spouses. We observed mothers displaying more signs of anxiety and fear than fathers. Parents also sought advice from their friends for emotional support or a listening ear during their child's recovery.

Sub-theme 5.2: Assistance in caring for the child's physical needs after the surgery.

Many parents revealed that they needed assistance from their parents, extended family members or domestic helper to look after their child's well-being and administer medication when they were at work.

Theme 6: Online information to supplement the preoperative consultation

Most parents agreed that the pre-surgery consultations in the outpatient clinic were sufficiently informative about the surgical procedure, and they also received reassurance from their consultants and clarified doubts they had at that time. However, some parents had difficulty in grasping and comprehending the entire verbal information within the initial consultation. Hence, most of them watched videos on YouTube and/or searched the internet to learn about the surgical procedure and obtain more information about paediatric anaesthesia.

Discussion

The main finding from this study on the parental perceptions from their lived experiences during their child's day-surgery in a department of paediatric surgery within a large public, tertiary hospital was that all parents expressed a wide range of negative emotions throughout their child's surgical journey which impacted their individual level of cognitive functioning and mental wellbeing. These negative emotions were apparent upon diagnosis, prior to surgery (being fearful of their child's reactions during induction of anaesthesia) and after discharge prior to outpatient follow-up (such as their child's coping with stress and trauma from the surgery). Parents also reported feeling overwhelmed and inadequate in caring for their child's recovery after hospital discharge. These psychosocial experiences at different times of the day-surgery process were reflected in their self-reported need for additional information, ready availability of medical advice and the need for emotional support and coping strategies.

Although most parents used the internet as a source of information, it had worked negatively for some by aggravating their anxiety. Nonetheless, the parents in our study placed their trust in the surgical and nursing team and approached them on the day of the surgery to clarify their doubts that could not be addressed from the internet sources in the preoperative period.

Before the surgery, parents were unsure of the amount of information and the level of detail to be shared with their child which is similar to other reports^{3,5,19}. Some parents opted to withhold the information from their child whereas others resorted to the use of either distraction techniques with mobile devices or comforting techniques such as holding hands. Parents felt the need for additional information pertaining to the premedication, induction of anaesthesia and anaesthesia side-effects²⁰. This may be partly addressed by outpatient anaesthesia consultations because it is known that the relatively less complex and less severe nature of day-surgeries may not warrant comprehensive discussions as for major surgeries^{21,22}.

On the one hand, it is known that delivery of comprehensive and easily understandable information to paediatric patients and families plays a role in ensuring optimal postoperative outcomes for the child²⁰, whereas, on the other hand, the effectiveness of the different modes of information transfer to the parents has not yet been extensively evaluated^{2,23}. Hence, it is upon the healthcare professionals to determine the level of information and the most effective methods of delivering that information²⁴. Some studies suggested using mobile games, leaflets with information pertaining to the procedure and the development of trusted internet sources by the healthcare team to help patients and families receive adequate perioperative information^{3,25-27}.

Post-discharge analgesia at home was varied not only because of parents' inability to appropriately assess their child's pain, but also because of their fear of analgesic side-effects and addictive properties^{14,28}. This was further compounded by challenges in interpreting the child's postoperative maladaptive behavioral changes and correlating these to a normal versus complicated post-surgical recovery. Rather than go through the hospital dashboard to contact the primary team, parents found it easier to visit private clinics or seek online clarification and reassurance. As a solution, some hospitals have utilised mobile

apps for not only reinforcing standardised instructions, but also for facilitating direct communications with the primary team^{29,30}.

Just as parents of children undergoing major surgeries may seek stress-relief and physical assistance from their close relatives^{31,32}, our study on day surgery experiences demonstrates similar needs for regular emotional, social and physical support from their family (e.g., spouse, parents and in-laws) and friends. Some of the parents got support from relatives whose children had undergone similar procedures (e.g. circumcision), which may have been helpful in managing stress and developing positive thoughts for their child's recovery^{26,32}.

Limitations of the study

All parents who were interviewed were married. This would exclude the experiences of single parents with potentially different needs. Only English-speaking parents were interviewed, thus overlooking the experiences from non-English speaking parents in Singapore.

How might this information affect practice?

In our hospital, we are formulating and implementing procedure-specific pamphlets to aid in pre-discharge counseling and additional visual aids to help parents to connect their prior knowledge with what they actually experience with their child. We are conducting prospective studies for the use of mobile apps with a separate information page for each day of their child's surgical journey starting from the day of consultation to the follow-up appointment after surgery.

Additional interventions to lower parents and child's anxiety include clown therapy, distraction therapy, virtual reality²⁵ and therapeutic play^{33,34}. Hospitals can also curate a list of credible websites for parents' reference as necessary. There is a need for the healthcare team to verify comprehension and retention of information delivered prior to discharge³⁵.

In conclusion, a descriptive qualitative study revealed specific lived experiences and needs of parents whose children underwent day-surgery. Future studies may consider expanding the scope to larger sample sizes from multiple centres and developing innovative, directed and accessible solutions to address parental concerns and assure a seamless, holistic experience to both parents as well as their children.

Key messages

- Perioperative experiences have a psychosocial impact on the parents of affected children
- Parents express a need to actively participate in their child's perioperative care
- Healthcare providers can empower parents with innovative education and coping strategies

Acknowledgements

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