Medical Science

pISSN 2321–7359; eISSN 2321–7367

Impact of parents' satisfaction with the service of pediatric anesthesia on clinical and surgical outcomes

Fawaz Alhamied[2,3], **Abdallh Almaneea**[2,3], **Malek Alrasheed**[2,3], **Nawaf A Alhamied**[2,3], **Abdulazeez AlSaleh**[2,3], **Meshal Aljarallah**[2,3], **Faisal Alsomali**[2,3], **Faris Albaqami**[2,3], **Abdulmajeed Alqahtani**[2,3], **Maximiliano Boada**[1,2,3*], **Mohamed Hassanin A Abdelellah**[1,2,3], **Latifah Dhafi Alharbi**[2,3,4], **Mohammed Alshabibi**[2,3,4], **Ahmed Haroun M Mahmoud**[1,2,3]

To Cite:
Alhamied F, Almaneea A, Alrasheed M, Alhamied NA, AlSaleh A, Aljarallah M, Alsomali F, Albaqami F, Alqahtani A, Boada M, Abdelellah MHA, Alharbi LD, Alshabibi M, Mahmoud AHM. Impact of parents' satisfaction with the service of pediatric anesthesia on clinical and surgical outcomes. Medical Science 2022; 26: ms547e2651. doi: https://doi.org/10.54905/disssi/v26i130/ms547e2651

Authors' Affiliation:
[1]Department of Pediatric Anesthesia King Abdullah Specialized Children Hospital, Ministry of the National Guard Health Affairs, Riyadh, Saudi Arabia
[2]King Abdullah International Medical Research Center, Riyadh, Saudi Arabia
[3]King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia
[4]Department of Anesthesia King Abdulaziz Medical City, Ministry of the National Guard Health Affairs, Riyadh, Saudi Arabia

[*]**Corresponding author**
Department of Pediatric Anesthesia King Abdullah Specialized Children Hospital, Ministry of the National Guard Health Affairs, Saudi Arabia

Peer-Review History
Received: 04 December 2022
Reviewed & Revised: 07/December/2022 to 17/November/2022
Accepted: 19 December 2022
Published: 20 December 2022

Peer-review Method
External peer-review was done through double-blind method.

URL: https://www.discoveryjournals.org/medicalscience

ABSTRACT

Background: Preoperative anxiety is considered one of the major problems for the patients, which leads to undesirable negative effects on preoperative and postoperative stress, resulting in delayed induction of anesthesia and increased risk of anesthesia. Providing appropriate preoperative information to the pediatric patients and their caregivers to enhance postoperative outcomes. Therefore, in this study we aim to evaluate the parents' satisfaction with the use of the services of the Pediatric Anesthesia Department verifying if they feel satisfaction with the services and outcomes. *Methods:* This is an observational questionnaire study of parents' satisfaction with the service of pediatric anesthesia at King Abdulaziz Medical City, Ministry of National Guard Health Affairs, Riyadh, Kingdom of Saudi Arabia, which is a tertiary care center. The study was conducted from July 2021 to September 2021. A questionnaire was designed for the study and participants were asked to watch a video explaining the process of anesthesia in the pre-anesthesia clinic setting and fill the survey before discharge. *Results:* 111 surveys were collected. 85 (76.6%) of the guardians were mothers. The highest age demographic was 1-5 years accounting for 67 (60.4%) of the study population. Parents' satisfaction was significantly impacted by the whole care of their child by (96%). In addition, anesthesia team perceived professionalism and respectfulness were significant for the satisfaction of the parents (96.2%). *Conclusions:* Our study suggests that the benefits of parents' satisfaction after preoperative education is important to reduce patient anxiety and improve surgical outcomes.

Keywords: Satisfaction, Pediatric, anesthesia, outcomes

1. INTRODUCTION

Parents and guardians' satisfaction has always played a positive role in health care outcomes. Many studies have identified parental anxiety as a risk factor for pediatric perioperative anxiety, (Bevan, 1990; McEwenm, 2007). Leading to unintended negative effects on preoperative and postoperative stress, resulting in delayed induction of anesthesia, increased risk of anesthesia and increased levels of stress hormones, which can suppress the immune response and delay postoperative wound healing and postsurgical activity (Abrishami, 2009; Pereira, 2016; Kaim, 2006). This becomes more significant when a study has found that mothers of children going for a major surgery had the same level of anxiety as women going for minor surgery (MacLarem, 2008).

Preoperative education of patients and their guardians can reduce the traumatic effects of surgery and develop a trusting relationship between the family and medical team, which has been achieved through many methods including leaflets, telephone consultations and preadmission clinics with varying efficacies (Wisselo, 2004; Kain, 1997). One method that could be used is prerecorded videos that elaborate on the process of anesthesia. Some studies have demonstrated a reduction in anxiety and the need for information after watching a video explaining the process (Jlala, 2010; Snyder-Ramos, 2005; West, 2014).

Pediatric patients and their families need to be informed with sufficient preoperative information to improve postoperative outcome. Therefore, in this study we aim to evaluate the parents' satisfaction with the use of the services of the Pediatric Anesthesia Department verifying if they feel satisfied with the services. Moreover, we aim to assess the satisfaction of the parents about the information received in the pre-anesthesia clinic.

2. METHODOLOGY

This study was conducted using an observational questionnaire of parents' satisfaction with the service of pediatric anesthesia at King Abdullah specialized children Hospital, Ministry of National Guard Health Affairs, Riyadh, Kingdom of Saudi Arabia, which is a tertiary care center. This study has obtained an ethical approval from institutional review board committee of King Abdullah international medical research center at the ministry of national guard health affairs with protocol number (RC20/488/R). The study was conducted from July 2021 to September 2021 and took place in the daycare surgery department in our institution, specialized pediatric tertiary center. After approval from local institutional ethical committee and obtaining informed consent from patients, a questionnaire with 23 questions divided into 5 sections was constructed, as shown in figure 1. (Questionnaire) The introductory section of the questionnaire was designed to know the age of the guardian, level of education and relation to the child. The second section was designed to evaluate the knowledge of the parents about the anesthesia and previous experience if available. Questions in the third section were about the pre anesthesia visit, whether it was reassuring and whether information about anesthesia was satisfactory, easy to understand. The fourth section explored the effect of the preoperative video, if they have watched the video, was this reassuring and if the content of preoperative information was enough. https://www.youtube.com/watch?v=JZJ4X5img1U&feature=youtube

The last section explored the overall satisfaction with the service (Alsaif, 2018; West, 2014; Milliken-Glabbe, 2017; Dal, 2014). Observational questionnaire was prepared and tested for reliability using Cronbach's Alpha and Guttman Split-Half Coefficient, as well as tested for validity by calculating the correlation coefficient. The participants were usually asked to watch a video explaining the process of anesthesia in the pre-anesthesia clinic setting, on the day of surgery they were asked to complete the questionnaire before discharge from the hospital. The questionnaire was distributed in paper forms and was handled through nurses and interns in the daycare clinic after end of surgery.

We used the RAOSOFT formula to calculate the sample, to have a confidence level of 95% in the 90% of the population. The patients were selected by non-probability sample methods. Using the American Society of Anesthesiologists (ASA) physical status classification, all patients with ASA I and II had day surgery and discharged home the same day during the study period were included. Patients with ASA III or ASA IV and patients of the selected ones who had any complications or who had an unexpected hospitalization were excluded. In addition, we excluded patients previously admitted before the surgery. All statistical analysis was done using SAS 9.4 software, Cary, United States of America. Descriptive statistic provided as proportions, frequencies, means and standards deviations. Tabulations of the data was done using 0.05 as cut off limit of significant P-value. Categorical variables were compared using chi square test and continuous variables were compared using t-test.

3. RESULTS

111 parents were included and responded to the questionnaire. 76.6% of the guardians were mothers. The age group 1-5 years accounts for 60.4% of the study population, followed by those less than 1 year age group being 18.9%, the 5-10 years group

represented 16.2% and the group more than 10 years accounted for the remaining 4.5%. In terms of the guardian's education, 48.6% of the guardians were bachelor graduates, 46.8% were secondary school graduates and the remaining 4.5% had primary education Table (1).

Table 1 Demographic Data

Guardian of the child	Frequency	Percent
Mother	85	76.6
Father	26	23.4
Total	111	100.0
Age of the child		
1-5 years	67	60.4
less than 1 year	21	18.9
5-10 years	18	16.2
>10 years	5	4.5
Total	111	100.0
Age of guardian		
30-39	65	58.6
20-29 years	28	25.2
40-50	18	16.2
Total	111	100.0
Education of guardian		
Bachelor	54	48.6
High	52	46.8
primary	5	4.5
Total	111	100.0

Our results showed that when the child has had previous experience with anesthesia, he presented high satisfaction rate (89.7%). There was a significant relation between having previous anesthesia and the satisfaction toward pediatric anesthesia services where probability <0.05. This relation is moderate where contingency coefficient =0.226 which is range from 0.15 to 0.25 Table (2).

Table 2 Relation between satisfaction and previous anesthesia experience

			Have your child been under anesthesia before		Total	Chi square test	Contingency coefficient
			No	Yes			
The satisfaction toward pediatric anesthesia services	Unsatisfied	n	0	2	2	6**	0.226
		%	0.0%	6.9%	1.8%		
	Satisfied	n	5	1	6		
		%	6.1%	3.4%	5.4%		
	Strongly satisfied	n	77	26	103		
		%	93.9%	89.7%	92.8%		
Total		n	82	29	111		
		%	100.0%	100.0%	100.0%		

*Significant at 0.05 level

Moreover, the smooth emergence and being calm waking up relaxed and free of pain was a significant factor in parents' satisfaction (95.1%). Table (3) additionally, parents' satisfaction was significantly impacted by the postoperative childcare Table (4).

Table 3 Relation between satisfaction and the anesthesia emergence

			The child woke up relaxed and calm after anesthesia					Total	Chi square test	Contingency coefficient
			Strongly unsatisfied	Unsatisfied	Neutral	Satisfied	Strongly satisfied			
The satisfaction toward pediatric anesthesia services	Unsatisfied	n	0	2	0	0	0	2	17.3**	0.37
		%	0.0%	16.7%	0.0%	0.0%	0.0%	1.8%		
	Satisfied	n	0	1	1	1	3	6		
		%	0.0%	8.3%	5.0%	6.3%	4.9%	5.4%		
	Strongly satisfied	n	2	9	19	15	58	103		
		%	100.0%	75.0%	95.0%	93.8%	95.1%	92.8%		
Total		n	2	12	20	16	61	111		
		%	100%	100%	100%	100%	100%	100%		

*There is significant relation

Table 4 Relation between satisfaction and the postoperative childcare

			The whole postoperative childcare			Total	Chi square test	Contingency coefficient
			Neutral	Satisfied	Strongly satisfied			
The satisfaction toward pediatric anesthesia services	Unsatisfied	n	0	1	1	2	17.72**	0.371
		%	0.0%	10.0%	1.0%	1.8%		
	Satisfied	n	0	3	3	6		
		%	0.0%	30.0%	3.0%	5.4%		
	Strongly satisfied	n	2	6	95	103		
		%	100.0%	60.0%	96.0%	92.8%		
Total		n	2	10	99	111		
		%	100%	100%	100%	100%		

*There is significant relation

Another statistically significant factor that affected guardian satisfaction was the control of postoperative nausea and vomiting. Table (5) lastly, the anesthesia team perceived professionalism and respectfulness were significant for the satisfaction of the parents. Table (6) 64.9% of parents had general information about anesthesia before, while 35.1% had none. However, this had no statistical significance on their satisfaction.

Table 5 Relation between satisfaction and control of postoperative Nausea and vomiting

			Nausea and vomiting were well controlled after surgery				Total	Chi square test	Contingency coefficient
			Unsatisfied	Neutral	Satisfied	Strongly satisfied			
The satisfaction toward pediatric anesthesia services	Unsatisfied	n	0	0	0	2	2	2.718	-
		%	0.0%	0.0%	0.0%	2.2%	1.8%		
	Satisfied	n	0	0	2	4	6		
		%	0.0%	0.0%	13.3%	4.4%	5.4%		
	Strongly satisfied	n	3	2	13	85	103		
		%	100.0%	100%	86.7%	93.4%	92.8%		
Total		n	3	2	15	91	111		
		%	100%	100%	100%	100%	100%		

*There is significant relation

Table 6 Relation between satisfaction and Anesthesia team professionalism

			Anesthesia team was respectful			Total	Chi square test	Contingency coefficient
			Unsatisfied	Satisfied	Strongly satisfied			
The satisfaction toward pediatric anesthesia services	Unsatisfied	n	1	0	1	2	57.2	0.583
		%	50.0%	0.0%	1.0%	1.8%		
	Satisfied	n	0	3	3	6		
		%	0.0%	60.0%	2.9%	5.4%		
	Strongly satisfied	n	1	2	100	103		
		%	50.0%	40.0%	96.2%	92.8%		
Total		n	2	5	104	111		
		%	100%	100%	100%	100%		

*There is significant relation

Similarly, having information about complications of anesthesia and being afraid and worried about anesthesia had no statistical significance on their satisfaction. Moreover, watching the pre-anesthesia video had no statistical significance on their satisfaction Tables (7-12).

Table 7 Relation between satisfaction and having information about anesthesia

			Do you have information about anesthesia		Total	Chi square test	Contingency coefficient
			No	Yes			
The satisfaction toward pediatric anesthesia services	Unsatisfied	n	1	1	2	0.836	-
		%	2.6%	1.4%	1.8%		
	Satisfied	n	3	3	6		
		%	7.7%	4.2%	5.4%		
	Strongly satisfied	n	35	68	103		
		%	89.7%	94.4%	92.8%		
Total		n	39	72	111		
		%	100.0%	100.0%	100.0%		

There is no significant relation

Table 8 Relation between satisfaction and having information about anesthesia complications

			Do you have information about complications of anesthesia		Total	Chi square test	Contingency coefficient
			No	Yes			
The satisfaction toward pediatric anesthesia services	Unsatisfied	n	1	1	2	0.952	-
		%	2.6%	1.4%	1.8%		
	Satisfied	n	3	3	6		
		%	7.9%	4.1%	5.4%		
	Strongly satisfied	n	34	69	103		
		%	89.5%	94.5%	92.8%		
Total		n	38	73	111		
		%	100.0%	100.0%	100.0%		

There is no significant relation

Table 9 Relation between satisfaction and watching the video

			Did you watch the video		Total	Chi square test	Contingency coefficient
			No	Yes			
The satisfaction toward pediatric anesthesia services	Unsatisfied	n	1	1	2	0.978	-
		%	2.8%	1.3%	1.8%		
	Satisfied	n	1	5	6		
		%	2.8%	6.7%	5.4%		
	Strongly satisfied	n	34	69	103		
		%	94.4%	92.0%	92.8%		
Total		n	36	75	111		
		%	100.0%	100.0%	100.0%		

There is no significant relation

Table 10 Relation between satisfaction and the video making anesthesia information easier

			Did the video make anesthesia information easier		Total	Chi square test	Contingency coefficient
			No	Yes			
The satisfaction toward pediatric anesthesia services	Unsatisfied	n	0	1	1	0.466	-
		%	0.0%	1.4%	1.3%		
	Satisfied	n	0	5	5		
		%	0.0%	7.1%	6.7%		
	Strongly satisfied	n	5	64	69		
		%	100.0%	91.4%	92.0%		
Total		n	5	70	75		
		%	100.0%	100.0%	100.0%		

There is no significant relation

Table 11 Relation between satisfaction and the video reassuring about operating room environment

			Did the video reassure you about operating room environment		Total	Chi square test	Contingency coefficient
			No	Yes			
The satisfaction toward pediatric anesthesia services	Unsatisfied	n	0	1	1	0.237	-
		%	0.0%	1.6%	1.3%		
	Satisfied	n	1	4	5		
		%	7.1%	6.6%	6.7%		
	Strongly satisfied	n	13	56	69		
		%	92.9%	91.8%	92.0%		
Total		n	14	61	75		
		%	100.0%	100.0%	100.0%		

There is no significant relation

Table 12 Relation between satisfaction and having any worries about anesthesia

			Do you have any worries that your child will be under anesthesia		Total	Chi square test	Contingency coefficient
			No	Yes			
The satisfaction toward pediatric anesthesia services	Unsatisfied	n	1	0	1	0.722	-
		%	2.3%	0.0%	1.3%		
	Satisfied	n	3	2	5		
		%	6.8%	6.5%	6.7%		
	Strongly satisfied	n	40	29	69		
		%	90.9%	93.5%	92.0%		
Total		n	44	31	75		
		%	100.0%	100.0%	100.0%		

There is no significant relation

Parents Satisfaction Survey

A) Introduction:

1. ***Guardian of the child:*** *Mother/Father/Other*
2. ***Age of guardian:*** *20-29 Years/30-39Years/40-50 Years/Above 50 Years*
3. ***Age of the child:*** *<1 year/1-5 year/6-10 year/ >10 year*
4. *Education level of the guardian: Primary school/High school/Bachelor's and above degree/Not educated*

B) Parents awareness about anesthesia:

1. ***Has your child done any procedure that required anesthesia before?*** *Yes/No*
2. ***Do you have any information about the type of anesthesia?*** *Yes/No*
3. ***Do you have any information about the complications of anesthesia?*** *Yes/No*
4. ***Would you like to get more information about anesthesia?*** *Yes/No*
5. *Do you have any worries or fear because your child will be under anesthesia? Yes/No*

C) Pre-Anesthesia Clinic visits feedback:

1. ***The information provided by the anesthesiologist was sufficient.*** *Strongly Agree/Agree/neutral/Disagree/strongly disagree*
2. ***The anesthesiologist encouraged you to ask questions.*** *Strongly Agree/Agree/neutral/Disagree/strongly disagree*
3. ***The Information given to me by the anesthesia team was understandable.*** *Strongly Agree/Agree/neutral/Disagree/strongly disagree*
4. ***The discussion with the anesthesiologist during the visit was reassuring.*** *Strongly Agree/Agree/neutral/Disagree/strongly disagree*
5. ***You understand the care role of the anesthesiologist.*** *Strongly Agree/Agree/neutral/Disagree/strongly disagree*

D) Getting information about anesthesia through preoperative video:

1. ***Did you watch the video with your child?*** *Yes/No*
2. ***Did the video make the anesthesia Information easy to you?*** *Yes/No*
3. ***Did the video reassure you about the environment inside the operation room?*** *Yes/No*
4. ***After watching the video, would you like to get more information about anesthesia?*** *Yes/No*
5. ***Do you have any worries because your child will be under anesthesia?*** *Yes/No*

E) Overall satisfaction from pediatric anesthesia service:

1. ***The child woke up relaxed and calm after anesthesia.*** *Strongly Agree/Agree/neutral/Disagree/strongly disagree*
2. ***The whole postoperative childcare.*** *Agree/Agree/neutral/Disagree/strongly disagree*
3. ***Nausea and vomiting were well Controlled after surgery*** *Agree/Agree/neutral/Disagree/strongly disagree*
4. ***Anesthesia team was professional and respectful.*** *Agree/Agree/neutral/Disagree/strongly disagree*
5. ***You feel satisfied toward pediatric anesthesia service.*** *Agree/Agree/neutral/Disagree/strongly disagree*

Figure 1 Parents satisfaction survey

4. DISCUSSION

The anesthesiologist's job is to ensure that the patient is pain free and satisfied with minimal adverse effect. However, when it comes to the pediatric population satisfaction, this becomes challenging since not only communication with patient can be limited

for younger children, but also communicating and acknowledging their concern is challenging. Moreover, choosing the right time to explain and listen to the parent concerns are significant. Good communication with the parents is important since they are the ones responsible for making the consent for the procedure, so they should be provided with information in the best way possible and be fully comfortable with the process. This is important since parents can proceed with procedures out of fear despite having their information needs unmet (Franck, 2005). This can be problematic since this can have serious health consequences on the parents.

In our data, we found out that the parent's previous experience with their child going through anesthesia has significance on their satisfaction. This can raise questions about their expectations and the previous experience. The anesthesia team's attitude has a major impact on the perception of the parents. It can affect the decision making of the parents in accepting or refusing certain procedures regardless of its benefits. This is translated in our data when the team professionalism and respectfulness is a significant factor in the parents' satisfaction. The analysis also showed significance between the children is relaxation, calmness and parents' satisfaction.

We followed certain guidelines developed by Tsang, 2017 on building a survey. The construct of interest of the questionnaire was to measure the parents' satisfaction regarding the pediatric anesthesia. It started with a brief demographic survey of the age, education level and type of guardian (mother, father, or other) as well as the age of the child. It also included twenty questions divided into four columns. First the guardian's awareness about anesthesia which included questions about their prior knowledge about anesthesia. The second set of question were about pre-anesthesia clinic visits and satisfaction feedback. The third column was about the effects of the educational video on the pre-operative anesthesia. Finally, an overall satisfaction from the pediatric anesthesia service.

This study supports the findings, which evaluate satisfaction of the parents about the information received during the Pre-anesthesia clinic. Guardians that were reassured by the video regarding the environment inside the operating room were strongly satisfied toward pediatric anesthesia services (91.8%), while only (1.6%) were unsatisfied. Furthermore, parents that stated that the video made the anesthesia information easier to understand for their children were strongly satisfied toward pediatric anesthesia services (91.4%). On the other hand, only (1.4%) were unsatisfied. These findings showed the impact of the information received during the Pre-anesthesia clinic (Kruzik, 2009).

Limitations and weakness

After doing a literature review on the parents' satisfaction level on pediatric anesthesia, we found no appropriate questionnaire. Therefore, a questionnaire was developed in English and Arabic and tested for reliability and validity, which may be subject to errors in construction and validity. Due to the age of some of the patients undergoing the anesthesia, we were unable to ascertain accurate objective feedback and therefore only accounted for the parents' feedback only.

5. CONCLUSION

The aim of this study was to determine if Parents and guardians' satisfaction plays a positive role in health care outcomes. The findings showed that Preoperative education of patients' parents enhance the quality of our service with a trusting relationship between the family and anesthesia team, reduce patient anxiety caused by uncertainty and enhance the satisfaction of patients and their parents with their clinical and surgical outcomes by (96%).

Acknowledgement

We are grateful for Mrs. Maryam Almaidan and Ms. Maha Alotaibi, Mrs. Wafaa AL Qahtani, for their great role in the facilitation of data collection. We extend our appreciation to Ms. Rahaf Almalki, for her role in data analysis and to Dr. Ismail Alatrash for his role in design of the questionnaire.

Author Contributions

Fawaz Alhamied, Abdallh Almaneea, Mohamed Hassanin A Abdelellah, Latifah Dhafi Alharbi, Malek Al Rasheed, Nawaf A Alhamied, Mohammed Alshabibi have contributed to the design and implementation of the research and the writing of the manuscript, Abdulazeez Alsaleh, Meshal Aljarallah, Faisal Alsomali, Faris Albaqami, Abdulmajeed Al Qahtani collected the data and co-wrote the manuscript, Maximiliano Boada, Ahmed Haroun M Mahmoud reviewed and edited the final manuscript. Ahmed Haroun M Mahmoud supervised the project.

Ethical Approval

This study received IRB approval (RC20/488/R) from King Abdullah International Medical Research Center (KAIMRC) at the Ministry of National Guard Health Affairs.

Informed consent

Written and oral informed consent was obtained from individual participants included in the study

Funding

This study has not received any external funding.

Conflict of interest

The authors declare that there is no conflict of interests.

Data and materials availability

All data sets collected during this study are available upon reasonable request from the corresponding author.

REFERENCES AND NOTES

1. Abdulrahman Alsaif, Saleh Alqahtani, Farhan Alanazi, Faris Alrashed, Abdullah Almutairi. Patient satisfaction and experience with anesthesia: A multicenter survey in Saudi population. Saudi J Anaesth 2018; 12(2):304-310. doi: 10.4103/sja.SJA_656_17
2. Bevan JC, Johnston C, Haig MJ, Tousignant G, Lucy S, Kirnon V, Assimes IK, Carranza R. Preoperative parental anxiety predicts behavioural and emotional responses to induction of anaesthesia in children. Can J Anaesth 1990; 37(2):177-82. doi: 10.1007/BF03005466. PMID: 2311148.
3. Franck LS, Spencer C. Informing parents about anaesthesia for children's surgery: A critical literature review. Patient Educ Couns 2005; 59(2):117-25. doi: 10.1016/j.pec.2004.11.002. Epub 2004 Dec 28. PMID: 16257615.
4. Ip HY, Abrishami A, Peng PW, Wong J, Chung F. Predictors of postoperative pain and analgesic consumption: A qualitative systematic review. Anesthesiology 2009; 111(3):657-77. doi: 10.1097/ALN.0b013e3181aae87a PMID: 19672167.
5. Jlala HA, French JL, Foxall GL, Hardman JG, Bedforth NM. Effect of preoperative multimedia information on perioperative anxiety in patients undergoing procedures under regional anaesthesia. Br J Anaesth 2010; 104(3):369-74. doi: 10.1093/bja/aeq002. Epub 2010 Feb 1. PMID: 20124283.
6. Kain ZN, Mayes LC, Caldwell-Andrews AA, Karas DE, McClain BC. Preoperative anxiety, postoperative pain and behavioral recovery in young children undergoing surgery. Pediatrics 2006; 118(2):651-8. doi: 10.1542/peds.2005-2920. PMID: 16882820.
7. Kain ZN, Wang SM, Caramico LA, Hofstadter M, Mayes LC. Parental desire for perioperative information and informed consent: A two-phase study. Anesth Analg 1997; 84(2):299-306. doi: 10.1097/00000539- 199702000-00011. PMID: 9024018.
8. Kruzik N. Benefits of preoperative education for adult elective surgery patients. AORN J 2009; 90(3):381-7. doi: 10.1016/j.aorn.2009.06.022. PMID: 19735761.
9. MacLaren J, Kain ZN. A comparison of preoperative anxiety in female patients with mothers of children undergoing surgery. Table of contents. Anesth Analg 2008; 106(3):810-3. doi: 10.1213/ane.0b013e318162ce2f. PMID: 18292423.
10. McEwen A, Moorthy C, Quantock C, Rose H, Kavanagh R. The effect of videotaped preoperative information on parental anxiety during anesthesia induction for elective pediatric procedures. Paediatr Anaesth 2007; 17(6):534-9. doi: 10.1111/j.1460-9592.2006.02173.x. PMID: 17498014.
11. Milliken-Glabe SJ, Zuk J, Ziniel SI, Bjur KA, Alvarez M, Szolnoki JM, Janosy NR. First steps in validating the pediatric anesthesia parent satisfaction (PAPS) survey. Paediatr Anaesth 2017; 27(2):153-161. doi: 10.1111/pan.13053
12. Pereira L, Figueiredo-Braga M, Carvalho IP. Preoperative anxiety in ambulatory surgery: The impact of an empathic patient-centered approach on psychological and clinical outcomes. Patient Educ Couns 2016; 99(5):733-8. doi: 10.1016/j.pec.2015.11.016. Epub 2015 Nov 26. PMID: 26654958.
13. Saraçoğlu KT, Dal D, Baygın Ö. Parental Satisfaction Assessment After Paediatric Procedural Sedation: There Are Still Issues to Address. Turk J Anaesthesiol Reanim 2014; 42(6):332-340. doi: 10.5152/TJAR.2014.05025
14. Snyder-Ramos SA, Seintsch H, Böttiger BW, Motsch J, Martin E, Bauer M. Patient satisfaction and information gain after the preanesthetic visit: A comparison of face-to-face interview, brochure, and video. Anesth Analg 2005; 100(6):1753-1758. doi: 10.1213/01.ANE.0000153010.49776.E5. PMID: 15920209.
15. Tsang S, Royse CF, Terkawi AS. Guidelines for developing, translating, and validating a questionnaire in perioperative and pain medicine. Saudi J Anaesth 2017; 11(1):S80-S89. doi:

10.4103/sja.SJA_203_17

16. West AM, Bittner EA, Ortiz VE. The effects of preoperative, video-assisted anesthesia education in Spanish on Spanish-speaking patients' anxiety, knowledge and satisfaction: A pilot study. J Clin Anesth 2014; 26(4):325-9. doi: 10.1016/j.jclinane.2013.12.008. Epub 2014 Jun 2. PMID: 24882604.
17. Wisselo TL, Stuart C, Muris P. Providing parents with information before anaesthesia: What do they really want to know? Paediatr Anaesth 2004; 14(4):299-307. doi: 10.1046/j.1460-9592.2003.01222.x. PMID: 15078374.