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Parental Satisfaction Assessment After Paediatric Procedural Sedation: There Are Still Issues to Address

Pediyatrik Sedasyon Uygulanan Servislerde Ebeveyn Memnuniyetini Etkileyen Faktörler: Hala Söylenecek Birkaç Şey Var

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Abstract / Özet

Objective: As paediatric sedation practices are becoming safer and more feasible everyday, they have been widely used for diagnostic and therapeutic procedures. This study intended to determine the relation between parental satisfaction and the branches applying procedures and demographic data of the patients and their families, physicians, nurses, and the healthcare personnel in the room.

Methods: In total, 223 successive patients under 18 years of age and ASA I-II undergoing diagnostic or therapeutic procedures in paediatric pulmonary disease, gastroenterology, cardiology, and invasive radiology units were included in the study. The satisfaction level of the patients' parents was determined through a questionnaire of 22 questions.

Results: Average satisfaction scores for paediatric bronchoscopy and endoscopic interventions varied between 8.06 and 9.30, while the satisfaction scores of the interventions for the cardiovascular system, hepatic system, and renal system, as well as the invasive radiologic interventions, varied between 7.5 and 9.6. There was a statistically significant negative correlation between the age of parents and children and the necessity for a playground in the waiting area ($p<0.05$). A significant correlation was found between the age of children and the adequacy of the anaesthetist's behaviors ($p<0.05$).

Conclusion: Satisfaction levels of the parents were high at the units where paediatric sedation was applied. However, the expectations of young patients and their parents were higher. When the physical conditions and communication with patients and their relatives are improved and the process schedules are followed more precisely, the clinical results will increase in a positive way.

Key Words: Parental satisfaction, children, paediatric, sedation, questionnaire

Amaç: Pediyatrik sedasyon uygulamaları gün geçtikçe daha güvenli ve kolay uygulanabilen, ekonomik açıdan ve yatak kullanımı bakımından avantajlar sağlayan prosedürler haline geldiğinden diyagnostik ve terapötik girişimler için yaygın olarak kullanılmaktadır. Bu çalışmada ebeveyn memnuniyetinin girişimsel işlem yapılan branşlarla, hastaların ve yakınlarının demografik verileri, anesteziyi uygulayan anestezist, tekniker ve odada yer alan sağlık personeliyle ilişkisinin araştırılması amaçlanmıştır.

Yöntemler: Pediyatrik göğüs hastalıkları, gastroenteroloji, kardiyoloji ve girişimsel radyoloji servislerinde tanısal yada tedaviye yönelik girişimsel işlem uygulanan 18 yaş altında, ASA I-II, ardışık 223 hasta çalışma kapsamına alınmıştır. Hasta ebeveynlerinin memnuniyet düzeyi işlem günü kendileriyle yüz yüze yapılan görüşme sonucunda doldurduğumuz 22 soruluk anket aracılığıyla belirlenmiştir.

Bulgular: Pediyatrik bronkoskopi ve endoskopik girişimlere ait ortalama memnuniyet skorları 8,06 ila 9,30 arasında, kardiyovasküler sistem, hepatik sistem ve renal sisteme ait girişimler ile invazif radyolojik girişimlere ait memnuniyet skorları ise 7,5 ila 9,6 arasında değişmekteydi. Ebeveyn yaşı ve çocuk yaşı ile bekleme salonunda bir oyun alanının gerekliliği arasında negatif anlamlı korelasyon bulundu ($p<0,05$). Çocuk yaşı ile anestezistin davranışlarının tatminkarlığı arasında anlamlı korelasyon mevcuttu ($p<0,05$).

Sonuç: Pediyatrik sedasyon verilen ünitelerde yüksek hasta yakını memnuniyeti bulunmaktadır. Ancak genç hastaların ve ebeveynlerinin beklentileri diğer sedasyon altında işlem yapılan hastalardan yüksek bulunmuştur. Fiziksel şartlar iyileştirildiğinde, hastalarla ve yakınlarıyla daha fazla iletişim kurulduğunda ve işlem zamanlamalarına daha çok uyulduğunda klinik sonuçlar daha da iyileşecektir.

Anahtar Kelimeler: Ebeveyn memnuniyeti, çocuklar, pediyatrik, sedasyon, anket

Introduction

Ambulatory anaesthesia practices with several advantages are becoming safer and more feasible procedures everyday (1, 2). Today, the primary purpose of medical procedures is to reduce cost, protect the resources, and improve patient satisfaction without compromising patient safety (3). Effective sedation applied during these procedures reduces pain and anxiety experienced by children. Moreover, performing minor ambulatory operations outside of the oper-

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ating room increases the availability of the operating rooms and thus leads to a reduction in hospital costs (4, 5). Parent satisfaction correlates closely with the quality of the medical care and communication.

The level of parental satisfaction was relatively high in previous studies (6-8). The satisfaction rate has a close association with several factors, such as availability of the physicians, alignment between the family and the healthcare professionals considering the treatment options for the patient, and the ability to empathize with the emotional state of the family (9, 10). The majority of paediatric patients having an interventional procedure under sedation is unable to clearly express their needs or feelings. At this point, families become crucial partners for both measuring satisfaction level and identifying the level of quality. Parental anxiety not only distresses the child undergoing the operation but also increases the stress on the anaesthetist and even causes prolonged induction times (11).

A review on parental satisfaction in intensive care reported that parental satisfaction questionnaires need to be developed in a better way (12). The number and the scope of satisfaction questionnaires prepared for the parents of paediatric patients are quite limited. The present study evaluated and modified the questionnaire questions that were used previously and developed an improved 22-question questionnaire model to measure the satisfaction level of the parents whose children underwent paediatric sedation. This study intended to determine the relation between parental satisfaction and the branches applying the procedures and the demographic data of the patients and their families, physicians, nurses, and the healthcare personnel in the room.

Methods

This study was approved by the ethics committee of Marmara University Medical Faculty (no: B.30.2.MAR.0.01.02/AEK/120118660, date: 06/14/2012), and patients' parents provided written consents for the study. This study was conducted between March 2012 and October 2012 in the services of our university medical school hospital, where paediatric ambulatory sedation was performed. The study included 224 sequential ASA I-II patients under the age of 18 having an interventional procedure for diagnostic or therapeutic purposes in one of the paediatric pulmonology, gastroenterology, cardiology, and interventional radiology services. Those families whose patients were urgently taken into the procedure who did not provide written consent for the study, who were illiterate, or had serious systemic diseases limiting their activities (ASA 3) or a life-threatening condition (ASA 4) were not included in the study. In the preoperative period, patients were informed about the surgical interventions immediately after the decision was taken by the surgical team. Afterwards, parents were admitted to our anaesthesia consultation clinic and informed about the procedure. Clear fluids were allowed up to 3 hours before the procedural sedation. Last breastfeeding was advised to be finished 4 hours before the time of sedation. At midnight before the procedural sedation, solid foods were stopped, and bottle feeds or tube feeding was not allowed 6 hours before the surgical intervention.

No pre-medication was administered to the patients. The patients' parents were allowed to stay in the procedure room during the vascular access procedure and induction. Patients were administered moderate or deep sedation depending on the procedure they underwent. Propofol, ketamine, and midazolam were intravenously used in the sedation and analgesia regimen. Propofol 1 mg kg^{-1} was titrated iv, and 0.5 mg kg^{-1} propofol was administered if needed in order to achieve a favorable sedation level during the surgical procedure. Midazolam 0.025-0.05 mg kg^{-1} iv was titrated to a maximum of 0.4 mg kg^{-1}. Ketamine 1-1.5 mg kg^{-1} was titrated, and redosing with aliquots of 0.5 mg kg^{-1} was administered to maintain the sedation.

During sedation, continuous electrocardiogram (ECG), pulse oximetry, and non-invasive blood pressure were monitored. All patients had O_2 supplementation via a nasal cannula at 2 L min^{-1} during the procedure. The procedure rooms within the paediatric cardiology services were in common use with adult patients; however, the procedure rooms in other services were allocated to paediatric patients. The post-procedure observation was provided by both anaesthesiologists and the surgical team in recovery units of the wards. Parents were allowed to stay together with their children. We followed the patients until they responded appropriately to gentle stimulation or a voice. All possible complications were recorded. When the patient was ambulatory without assistance and was able to ingest foods, he was allowed to be discharged from the hospital. About 0.5 to 1 hour after completion of the procedure, we conducted the survey in the recovery room before children were discharged. Parents who answered the questions were the same as the parents that stayed during the induction of anaesthesia.

The procedures for oesophageal, gastric, duodenal, and colonic diseases applied in the endoscopy unit with or without biopsy, bronchoscopies in pulmonology, hepatic or renal biopsies in interventional radiology, transesophageal echocardiography, or coronary angiography procedures in cardiology were included in the study. The satisfaction level of the patients' parents was evaluated via a 22-question questionnaire, which was made in the course of face-to-face interviews conducted on the day of the procedure. These interviews were conducted by the anaesthesia nurse after the anaesthetist had left the service following completion of the sedation process. Patients' demographical data, types of procedure, number of procedures they had before, the education level of the parents, and the parents' relationship with the patient were the data recorded during the interview. While a 10-point Likert scale was used for evaluating the satisfaction levels of patient relatives regarding the information provided for them, the healthcare professionals, or the environmental comfort, yes/

Table 1. The demographical data of the patients and their parents and the number of procedures

		Youngest	Oldest	Average±S.D / n-%		
Child's age (Year)		1 month old	17 year old	7.7	±	5.5
	Age ≤3			71		32.1
	3< age ≤6			34		15.4
	6< age ≤9			33		14.9
	9< age ≤12			25		11.3
	12< age			58		26.2
Child's gender	Girl			103		46.6
	Boy			118		53.4
Parent's age		21 years	61 years	35.1	±	7.5
	Year ≤30			68		30.8
	30< Year ≤40			107		48.4
	40< Year ≤50			4		1.8
	50< Year			42		19.0
Parent's gender	Women			133		60.2
	Men			88		39.8
Education level of parents	Graduation degree					
	Primary school			143		64.7
	Secondary school			35		15.8
	High school			25		11.3
	University			18		8.1
Number of procedures		1	5	1.2	±	0.6

SD: standard deviation

no questions were used to get their opinions on a possible repetition of the procedure or to determine general satisfaction. Sufficiency of the information provided by the physician and the anaesthetist; the adequacy of the consent form; the comfort and hygiene of the procedure room; characteristics of the waiting area; respect for the patient's privacy; attitudes of the healthcare staff, physicians, and nurses; the quality and sufficiency of the postoperative follow-up process; and unexpected situations were the issues examined in the framework of the questionnaires. The relatives were also asked if they would prefer the same physician to perform the procedure in case of a need for repeating the same procedure. Furthermore, an open-ended question provided them with the opportunity to give suggestions on how to improve the relevant services in the hospital. Each interview took almost 15 minutes.

Statistical analysis

The Statistical Package for the Social Sciences (SPSS, Chicago, IL, USA) 20.0 program was used for the analysis. The average, standard deviation, frequency, and minimum and maximum values were used as descriptive data of statistics. Spearman correlation test was used for correlation analysis. Data distribution was examined with the Kolmogorov-Smirnov test. While the Mann-Whitney U-test was used for the analysis of the quantitative data, the chi-square test was used for the analysis of qualitative data, and the data that could not meet the chi-square conditions were analyzed with the Fischer test. $P<0.05$ was considered statistically significant.

Results

In a period of 7 months, 223 patients were included in the study. Parents of two patients had to be excluded from the study, because one of the patients could not undergo bronchoscopy after a bronchospasm, and the other did not have his parents with him during the induction in the endoscopy unit. Therefore, 221 patients' data were processed statistically. The demographic data of the patients and their parents are presented in Table 1. The satisfaction level of the parents regarding the surgical procedure and anaesthesia was high in general. Table 2 indicates parents' scoring from 1 to 10 based on the questionnaire questions. When the satisfaction scores for paediatric bronchoscopy and endoscopic procedures were compared, no statistical difference was documented (Table 3).

Mean satisfaction scores varied between 8.06 and 9.3. Satisfaction scores for the procedures regarding the cardiovascular system, hepatic system, renal system, and interventional radiologic procedures varied between 7.5 and 9.6 (Table 4). There was no satistically significant difference between the branches. The Pearson correlation test evaluated the correla-

Table 2. Parental satisfaction level regarding anaesthesia and the procedure

Whole group		Lowest	Highest	Mean±SD/ n%		
1. Do you know the reason for the procedure that your child underwent?	No			20		9.0
	Yes			201		91.0
2. Are you satisfied with the preoperative information provided by the physician?		1	10	8.4	±	1.9
3. Are you satisfied with the preoperative information provided by the anaesthetist?		1	10	8.2	±	2.3
4. How informative was the consent form?		2	10	8.2	±	1.9
5. Was the procedure room comfortable for your child?		1	10	8.6	±	1.9
6. Was the procedure room hygienic enough?		1	10	9.1	±	1.5
7. Do you think a playground is necessary for your child in the waiting area?		1	10	8.4	±	2.2
8. Are you satisfied with the degree of importance attached to your child's privacy by the healthcare personnel?		1	10	8.9	±	1.8
9. How satisfactory and kind were the attitudes of the healthcare personnel?		1	10	8.9	±	1.6
10. How satisfactory and kind were the attitudes of the anaesthetist?		2	10	9.2	±	1.2
11. What do you think about the sufficiency of the follow-up (after the procedure) process conducted by the anaesthetist?		3	10	9.2	±	1.3
12. What do you think about the sufficiency of the follow-up (after the procedure) process performed by the healthcare personnel?		2	10	8.9	±	1.5
13. Did your child have sufficient pain treatment after the procedure?		4	10	9.1	±	1.3
14. Did your child have sufficient treatment for nausea and vomiting after the procedure		3	10	9.1	±	1.3
15. Did your child get a negative memory considering the procedure room?	No			188		85.1
	Yes			33		14.9
16. What does your child think about the procedure room?		2	10	8.5	±	1.6
17. Was there any unexpected issue that made you unhappy before the procedure?	No			208		94.1
	Yes			13		5.9
18. Would you want to go through the same preparation process if there was a need to repeat the same procedure?	No			15		6.8
	Yes			206		93.2
19. Would you accept the same anaesthetist to perform sedation if there was a need to repeat the same procedure?	No			7		3.2
	Yes			214		96.8
20. Would you want the same physician to perform the procedure again if there was a need to repeat the same procedure?	No			6		2.7
	Yes			214		97.3
21. Did the healthcare personnel care about you? Are you satisfied with the degree of that care they showed?	No			8		3.6
	Yes			212		96.4

Mean±SD: mean±standard deviation

tion between the ages of the patient and parents, parents' education level, the number of operations, and the answers given to the questions. A statistically significant negative correlation was found between the parents' or children's age and the answer given to the following question: "Do you think that a playground is necessary for your child in the waiting area?" ($p<0.05$). There was a statistically significant correlation between the child's age and the answer given to the following question: "How satisfactory and kind were the attitudes of the anaesthetist?" ($p<0.05$, Table 5). As the correlation between the answers given to the questions was analyzed, all of the questions turned out to correlate with each other (Table 6). The satisfaction scores of the parents who gave positive answers to the questions were also high. Thirty-three parents reported that their children had a negative memory of the procedure room. According to 23 of these parents, it was because their children were scared. Six parents thought it was due to the pain their children had, and 4 of them stated that their children had a negative memory, because they found the environment unpleasant. Thirteen parents mentioned the presence of unexpected issues making them unhappy. The most frequently reported reasons for feeling unhappy were longer waiting time than expected (n=6), change of procedure date (n=5), and drug allergies (n=2). Fifteen parents stated they would not want to go through the same preparations for the procedure, 7 parents indicated that they would not want their children to be anaesthetized by the same anaesthetist, and 6 parents suggested that they would not want the same physician to perform the procedure in case of necessity for repeating the same procedure. Fifty-one parents (23%) answered the following open-ended question: "What would you recommend for improving the services here?"

Table 3. Comparison of gastrointestinal endoscopy and fiberoptic bronchoscopy procedures

		Fiberoptic Bronchoscopy		GIS	
		Mean±SD / n-%		Mean±SD / n-%	p
1. Do you know the reason for the procedure that your child underwent?	No	4	7.8%	15	9.9	0.667
	Yes	47	92.2%	137	90.1	
2. Are you satisfied with the preoperative information provided by the physician?		8.30 ± 2.09		8.47 ± 1.86		0.992
3. Are you satisfied with the preoperative information provided by the anaesthetist?		8.11 ± 2.51		8.34 ± 2.19		0.763
4. How informative was the consent form?		8.20 ± 1.83		8.14 ± 1.88		0.844
5. Was the procedure room comfortable for your child?		8.25 ± 2.47		8.73 ± 1.73		0.605
6. Was the procedure room hygienic enough?		8.80 ± 1.95		9.11 ± 1.31		0.882
7. Do you think a playground is necessary for your child in the waiting area?		8.57 ± 2.12		8.42 ± 2.23		0.649
8. Are you satisfied with the degree of importance attached to your child's privacy by the healthcare personnel?		8.82 ± 2.09		8.93 ± 1.59		0.690
9. How satisfactory and kind were the attitudes of the healthcare personnel?		9.02 ± 1.48		8.97 ± 1.43		0.544
10. How satisfactory and kind were the attitudes of the anaesthetist?		9.18 ± 1.27		9.30 ± 1.18		0.733
11. What do you think about the sufficiency of the follow-up (after the procedure) process conducted by the anaesthetist?		9.22 ± 1.32		9.12 ± 1.32		0.414
12. What do you think about the sufficiency of the follow-up (after the procedure) process performed by the healthcare personnel?		9.00 ± 1.50		8.83 ± 1.54		0.447
13. Did your child have sufficient pain treatment after the procedure?		9.06 ± 1.29		9.07 ± 1.26		0.853
14. Did your child have sufficient treatment for nausea and vomiting after the procedure?		9.12 ± 1.18		9.04 ± 1.33		0.774
15. Did your child get a negative memory considering the procedure room?	No	39	76.5%	133	87.5	0.058
	Yes	12	23.5%	19	12.5	
16. What does your child think about the procedure room?		8.06 ± 2.02		8.60 ± 1.41		0.249
17. Was there any unexpected issue that made you unhappy before the procedure?	No	51	100.0%	142	93.4	0.060
	Yes	0	0.0%	10	6.6	
18. Would you want to go through the same preparation process if there was a need to repeat the same procedure?	No	2	3.9%	13	8.6	0.274
	Yes	49	96.1%	139	91.4	
19. Would you accept the same anaesthetist to perform sedation if there was a need to repeat the same procedure?	No	0	0.0%	6	3.9	0.340
	Yes	51	100.0%	146	96.1	
20. Would you want the same physician to perform the procedure again if there was a need to repeat the same procedure?	No	0	0.0%	6	4.0	0.340
	Yes	51	100.0%	145	96.0	
21. Did the healthcare personnel care about you? Are you satisfied with the degree of that care they showed?	No	1	2.0%	7	4.6	0.397
	Yes	50	98.0%	144	95.4	

Mean±SD: mean±standard deviation; GIS: gastrointestinal system; Mann-Whitney U-test/chi-square test

Most parents emphasized the dimensional and functional insufficiency of the relevant area in the hospital (9.85). Parents of 5 patients complained about the lack of equipment in the waiting room, such as beverage machines, refrigerator, and TV. Some parents complained that physicians did not keep the procedure schedule (5.8%). Four parents thought that the preoperative and postoperative information provided to them was not enough and unsatisfactory.

Three parents suggested that a playground or a playroom was necessary. The relatives of the patients who received sedation for magnetic resonance imaging (MRI) and underwent cardiovascular angiography complained about the recovery unit, as it was used for both adult and pediatric patients. On the other hand, relatives of 2 patients undergoing upper gastrointestinal system endoscopy complained that their children saw patients getting out of the procedure room, and they thought that those two groups should be separated. One parent mentioned the need for a procedure table fit for infants, and 2 parents suggested that the staff and the nurses should have been more good-humored. The remainder of parents expressed their appreciation and gratitude.

Discussion

The results of this study revealed that parental satisfaction with paediatric procedural sedation services was generally high. Changes in the date or schedule of the procedure along with the allergic reactions were some of the most frequent reasons decreasing the satisfaction level. It was observed that young

Table 4. Comparison of procedures except gastrointestinal system and fiberoptic bronchoscopy procedures

Other procedures*		Lowest	Highest	Mean±SD / n-%	
1. Do you know the reason for the procedure that your child underwent?	No			1	5.6
	Yes			17	94.4
2. Are you satisfied with the preoperative information provided by the physician?		2	10	8.3 ±	2.2
3. Are you satisfied with the preoperative information provided by the anaesthetist?		1	10	7.5 ±	3.0
4. How informative was the consent form?		3	10	8.4 ±	2.0
5. Was the procedure room comfortable for your child?		5	10	8.8 ±	1.8
6. Was the procedure room hygienic enough?		8	10	9.5 ±	0.8
7. Do you think a playground is necessary for your child in the waiting area?		4	10	8.2 ±	1.9
8. Are you satisfied with the degree of importance attached to your child's privacy by the healthcare personnel?		1	10	9.2 ±	2.2
9. How satisfactory and kind were the attitudes of the healthcare personnel?		1	10	8.4 ±	3.0
10. How satisfactory and kind were the attitudes of the anaesthetist?		5	10	8.9 ±	1.6
11. What do you think about the sufficiency of the follow-up (after the procedure) process conducted by the anaesthetist?		7	10	9.6 ±	0.9
12. What do you think about the sufficiency of the follow-up (after the procedure) process performed by the healthcare personnel?		5	10	9.4 ±	1.4
13. Did your child have sufficient pain treatment after the procedure?		6	10	9.5 ±	1.1
14. Did your child have sufficient treatment for nausea and vomiting after the procedure		7	10	9.4 ±	0.9
15. Did your child get a negative memory considering the procedure room?	No			16	88.9
	Yes			2	11.1
16. What does your child think about the procedure room?		5	10	8.8 ±	1.5
17. Was there any unexpected issue that made you unhappy before the procedure?	No			15	83.3
	Yes			3	16.7
18. Would you want to go through the same preparation process if there was a need to repeat the same procedure?	No			0	0.0
	Yes			18	100.0
19. Would you accept the same anaesthetist to perform sedation if there was a need to repeat the same procedure?	No			1	5.6
	Yes			17	94.4
20. Would you want the same physician to perform the procedure again if there was a need to repeat the same procedure?	No			0	0.0
	Yes			18	100.0
21. Did the healthcare personnel care about you? Are you satisfied with the degree of that care they showed?	No			0	0.0
	Yes			18	100.0

*Cardiovascular system, hepatic system renal system, interventional radiologic procedures

parents and parents with children at a younger age had higher expectations both from the hospital and the anaesthetists.

The American Heart Association reported in its guideline that children may be accompanied by their parents during invasive procedures and/or resuscitations (13), because the parents' presence would not only make a contribution to the patients' recovery but also help calm down both the families and the children (14). A study indicated that although there was no decrease in pain scores in the cases where parents accompanied their children during painful invasive procedures, such as intravenous access procedure, there was an increase in the satisfaction level of both patients and parents (15). The presence of parents in the procedure room during the induction also reduces the need for premedication (16). However, it was indicated that when the parents who were accompanying their children during procedure were anxious, children became more distressed (11). In the present study, parents were allowed to stay in the room during intravenous access or induction. High parental anxiety leads to increased anxiety in children, prolonged recovery process, higher pain scores, increased use of narcotic analgesics, and extended hospitalization periods (17, 18). However, as the parents included in this study were observed and identified to have the ability to control their emotions, they were allowed to stay with their children, and this may have had a role in achieving a high satisfaction level.

Parents want to be informed on any issue concerning their children's health (19). However, comprehensive preoperative information does not necessarily indicate that parents have sufficient information on the relevant subject. The more in-

Table 5. The relationship between answers of questionnaire questions and patient age, parent age, parent education level, and number of procedures

		Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9	Question 10	Question 11	Question 12	Question 13	Question 14	Question 16
Child's age	r	0.071	0.040	0.027	0.129	0.063	-0.169	-0.037	0.032	0.169	0.027	0.073	0.085	0.043	0.099
	p	0.303	0.577	0.697	0.055	0.355	0.019	0.590	0.638	0.012	0.693	0.283	0.211	0.525	0.146
Parent's age	r	-0.104	-0.110	-0.086	-0.004	-0.066	-0.156	-0.085	-0.033	0.024	-0.036	0.016	-0.032	-0.047	0.022
	p	0.128	0.122	0.207	0.950	0.327	0.030	0.215	0.630	0.723	0.599	0.809	0.641	0.485	0.748
Parent's education	r	0.011	-0.057	0.075	-0.088	0.021	-0.070	-0.013	0.029	-0.039	-0.017	0.042	-0.023	0.071	-0.092
	p	0.870	0.419	0.274	0.194	0.759	0.334	0.850	0.667	0.562	0.801	0.539	0.730	0.292	0.179
Number of procedures	r	0.054	-0.059	0.032	0.033	0.035	0.004	0.012	0.080	0.069	0.000	0.016	-0.011	0.007	0.050
	p	0.432	0.406	0.638	0.625	0.601	0.953	0.857	0.239	0.308	0.995	0.817	0.875	0.912	0.465

Spearman correlation

Table 6. The correlation between answers on the questions

		Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9	Question 10	Question 11	Question 12	Question 13	Question 14
Question 3	R	0.632	-											
	P	0.000												
Question 4	R	0.493	0.449	-										
	P	<0.001	<0.001											
Question 5	R	0.350	0.362	0.538	-									
	P	<0.001	<0.001	<0.001										
Question 6	R	0.342	0.392	0.350	0.621	-								
	P	<0.001	<0.001	<0.001	<0.001									
Question 7	r	0.044	0.136	0.118	0.248	0.264	-							
	p	0.550	0.070	0.108	0.001	<0.001								
Question 8	r	0.405	0.408	0.466	0.516	0.519	0.328	-						
	p	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001							
Question 9	r	0.357	0.308	0.394	0.376	0.326	0.080	0.476	-					
	p	<0.001	<0.001	<0.001	<0.001	<0.001	0.273	<0.001						
Question 10	r	0.349	0.394	0.510	0.563	0.373	0.079	0.507	0.581	-				
	p	<0.001	<0.001	<0.001	<0.001	<0.001	0.274	<0.001	<0.001					
Question 11	r	0.334	0.398	0.426	0.496	0.377	0.233	0.511	0.442	0.584	-			
	p	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001				
Question 12	r	0.367	0.314	0.405	0.429	0.367	0.164	0.436	0.433	0.571	0.668	-		
	p	<0.001	<0.001	<0.001	<0.001	<0.001	0.024	<0.001	<0.001	<0.001	0.000			
Question 13	r	0.392	0.337	0.302	0.360	0.359	0.208	0.396	0.339	0.417	0.624	0.667	-	
	P	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	0.000	0.000		
Question 14	r	0.372	0.280	0.385	0.419	0.369	0.240	0.421	0.351	364.000	0.546	0.607	0.727 -	
	p	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.000	0.000	0.000	
Question 16	r	0.390	0.416	0.452	0.474	0.509	0.146	0.503	0.414	0.490	0.457	0.519	0.422	0.404
	p	<0.001	<0.001	<0.001	<0.001	<0.001	0.045	<0.001	<0.001	<0.001	0.000	0.000	0.000	0.000

Spearman Correlation

formation that is provided to them, the more satisfied the parents become. Nevertheless, it is not certain whether parental anxiety will reduce when they have more detailed information (20). On the other hand, it was indicated in some studies that the parents having detailed information on their children's state of health, the surgical procedure they would go through, and the potential risks of the procedure had lower anxiety (21, 22). Thanks to specific preoperative information, parents could more easily deal with their anxiety and establish better collaborations not only with the healthcare professionals but also with the physicians (2, 23). In the current study, the satisfaction scores for the information provided by the physician were 8.4 out of 10, while the satisfaction scores for the information provided by the anaesthetist or with the

consent forms were 8.2 out of 10. Despite this high satisfaction score, 4 of the patients' relatives mentioned in the open-ended question about the insufficiency of preoperative or postoperative information.

It was observed in the study that as the mean age of the patients and their families decreased, their expectations for a playground within the service increased significantly. In addition to that, the younger the parents were, the more expectations they had from the anaesthetist and the lower their satisfaction level became. There may be two reasons underlying this situation. For the younger parents, it was the first or second time they saw a sedation procedure, and that might have influenced their tolerance, patience, or satisfaction. On the other hand, compared to previous generations, the current young population of Turkey has more access to education and training and thus forms a more conscious society caring about their children.

The content and number of the questions were limited in previous questionnaire studies. Therefore, families were encouraged to participate in the survey, and high participation rates could be attributed to completing a questionnaire (17, 24). However, the 22-question survey developed within the scope of this study provided the opportunity to examine the satisfaction levels of the relatives in detail.

In this study, when the answers given to the open-ended questions were considered, it was seen that patients mostly dwelled on issues, such as the procedure room, the procedure schedule, and the information provided to them. It can be inferred from the study that expanding the size of the procedure room will not only improve the satisfaction level of the patients' relatives but also increase the care for patients' privacy. Although there was no delay in the administration of sedation after the patients were taken to the procedure room, overall satisfaction scores decreased because of the delays regarding the procedure, service bed adjustments, or registration procedures. Such unfavorable situations may be mitigated by improving the communication between parents and healthcare personnel.

There are some limitations that need to be acknowledged and addressed regarding the present study. The team performing the sedation process had information about the study, and this may have affected the satisfaction levels. On the other hand, it was the technician who conducted the survey after the anaesthetist and the physician had left the room following completion of the sedation procedure. Parental satisfaction should also be assessed to determine the level of anxiety in children. The children participating in our study were not premedicated, and they were together with their parents during the peripheral venous access. Both conditions may have influenced parental satisfaction.

Conclusion

The satisfaction level of the parents was high considering the units where paediatric sedation was administered. No statistically significant difference could be observed between the average satisfaction levels for the branches where interventional procedures were performed. However, the expectations of younger patients and their parents turned out to be higher compared to other patients having procedures under sedation.

When the physical conditions and the communication with patients and their relatives are improved and the procedure schedule is followed strictly, there will be further improvement in positive clinical results.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Marmara University Faculty of Medicine.

Informed Consent: Written informed consent was obtained from patients' parents who participated in this study.

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