



## Parental Satisfaction Metrics in Paediatric Day-Care Surgical Environment

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### ABSTRACT

**Introduction:** Pediatric day-care surgery has benefits like shorter hospital stays, cost savings, and quicker recovery. Understanding parental satisfaction, especially in resource-limited settings, is crucial for healthcare quality. This study analyzes factors affecting satisfaction in pediatric day-care surgery services.

**Methodology:** A cross-sectional study at Mayo Hospital's Paediatric Surgery Department in Lahore involved 163 parents of children aged 1-12 undergoing day-care surgery. Satisfaction was evaluated with the COPS-D (13) questionnaire, covering eight dimensions. SPSS version 20 was used for data analysis, applying chi-square tests to explore links between parental satisfaction and socio-demographic factors ( $p \leq 0.05$ ). **Results:** The average parental satisfaction was  $75.76 \pm 15.63\%$ . Most parents (71.8%) were highly satisfied, while 24.5% were moderately satisfied and 3.7% were dissatisfied. Satisfaction wasn't significantly linked to gender ( $p = 0.609$ ), child's age ( $p = 0.734$ ), diagnosis ( $p = 0.588$ ), socio-economic status ( $p = 0.688$ ), or occupation ( $p = 0.354$ ). Yet, parental age ( $p = 0.071$ ) and education level ( $p = 0.114$ ) hinted that older and less-educated parents reported higher satisfaction. **Conclusion:** Parental satisfaction in paediatric day-care surgery was high (70% positive). Trends hint education level and parental age might affect satisfaction. Optimal patient-centered care is crucial for enhancing parental experiences in paediatric surgical settings.

### INTRODUCTION

Paediatric day-care surgery has become an essential component of modern healthcare, providing advantages such as reduced hospital stays, lower healthcare costs, and faster post-operative recovery for children.<sup>1</sup> By allowing children to undergo surgical procedures without prolonged hospitalization, this model minimizes the emotional and psychological distress associated with hospital admissions, benefiting both patients and their caregivers.<sup>2</sup> However, the success of paediatric day-care surgery is not solely determined by clinical outcomes; parental satisfaction plays a pivotal role in evaluating the quality of care, identifying areas for improvement, and enhancing patient-centered service delivery.<sup>3</sup>

In healthcare, consumerism has emerged as a crucial model, emphasizing patient and caregiver experiences as key indicators of service quality.<sup>4</sup> In paediatric surgical settings, parents are the primary decision-makers and caregivers, making their satisfaction an essential measure of healthcare effectiveness.<sup>5</sup> Their experiences influence perceptions of care quality, adherence to post-

operative instructions, and overall trust in healthcare systems. Parental satisfaction in paediatric day-care surgery is influenced by multiple factors, including demographic characteristics, socioeconomic status, level of education, clinical outcomes, and psychosocial considerations.<sup>6</sup> Moreover, post-operative outcomes such as pain management at home, complication rates, recovery time, and the ease of post-operative communication significantly impact parental perceptions of care quality.<sup>7</sup>

Despite the growing adoption of paediatric day-care surgery worldwide, research on parental satisfaction in low- and middle-income countries remains limited.<sup>8</sup> In many such regions, paediatric surgical centers are scarce and concentrated in major urban areas, restricting access to specialized surgical care for children in remote areas.<sup>9</sup> While previous studies have reported moderate to high levels of parental satisfaction, they are often limited by small sample sizes and a lack of comprehensive assessment.<sup>10</sup> Expanding knowledge in this area is crucial, as it can inform healthcare providers and

policymakers on strategies to optimize paediatric surgical services and improve parental experiences, particularly in resource-limited settings.

The primary aim of this study was to assess parental satisfaction with paediatric day-care surgical services and identify the key determinants influencing their experience. Additionally, the study seeks to evaluate the relationship between parental satisfaction and post-operative outcomes, including pain management, complication rates, and length of stay. Through this investigation, the study aims to provide valuable insights to enhance healthcare quality in paediatric day-care surgical environments and support the expansion of these services to underserved regions.

## METHODOLOGY

This observational cross-sectional study was conducted in the Paediatric Surgery Department of Mayo Hospital, Lahore. Institutional review board approved study on 12<sup>th</sup> November 2024. Time for data collection was 6 months from date of approval. But due to high influx of patient data collection was completed in 4 months i.e. 13<sup>th</sup> November 2024 to 12<sup>th</sup> March 2025. The study population included parents of paediatric patients who underwent day-care surgery at the hospital within six months following the study's approval. The sample size was calculated to be 163 participants, determined using a 95% confidence interval, a 5% margin of error, and an anticipated parental satisfaction rate of 88%.<sup>1</sup>

Parents were recruited based on specific eligibility criteria. Those included were parents of children aged 1 to 12 years, residing within a 50 km radius of the hospital, and having access to communication for post-operative follow-up. Parents were excluded if their child was under 1 year of age, required emergency surgery, or experienced surgical complications necessitating hospital admission.

A structured validated questionnaire, COPS-D(13), was used to assess parental satisfaction across eight dimensions, including preadmission visit, experience on the day of surgery, operating room experience, nursing care, medical care, information provided, autonomy in decision-making, and the discharge process. The Overall Satisfaction Analysis categorizes parental satisfaction levels as follows: High Satisfaction ( $\geq 75\%$  of responses as "Strongly Satisfied" or "Satisfied") reflects effective communication, quality care, and a well-managed paediatric day-care surgery experience; Moderate Satisfaction (50%-74%) suggests acceptable service but highlights areas for improvement; and Low Satisfaction (<50%) indicates significant dissatisfaction, necessitating targeted interventions to enhance healthcare delivery.

Socio-demographic data, including parental age, education level, socioeconomic status, and occupation, were also collected. The data analysis was conducted

using SPSS version 20. Categorical variables, including gender, parental education level, socioeconomic status, occupation and procedure type were presented as frequencies and percentages. Comparisons between satisfaction categories (high, moderate, and low satisfaction) and categorical variables were analyzed using the Chi-square test. Continuous variables, such as parental age, distance from the hospital, and satisfaction percentage, were presented as mean  $\pm$  standard deviation (SD). A p-value of  $\leq 0.05$  was considered statistically significant.

## RESULTS

The majority of the children were male (54.0%), and most belonged to the 1-6 years age group (53.4%), with a mean age of  $6.69 \pm 3.51$  years. Appendectomy (25.8%), circumcision (28.2%), hernia repair (22.7%), and polypectomy for rectal polyp (23.3%) were the most common procedures performed. Parental age was nearly evenly distributed, with 50.3% aged 20-35 years and 49.7% aged 36-50 years, with a mean parental age of  $35.66 \pm 9.54$  years.

**Table 1**  
*Frequency Distribution of Different Variables (n=163)*

Variables	Frequency	Percent
Gender of child		
Male	88	54.0%
Female	75	46.0%
Age groups of child		
1-6 years	87	53.4%
7-12 years	76	46.6%
Mean $\pm$ S.D.	$6.69 \pm 3.51$	
Diagnosis		
Appendectomy	42	25.8%
Circumcision	46	28.2%
Hernia	37	22.7%
Rectal polyp (polypectomy)	38	23.3%
Parental age		
20-35 years	82	50.3%
36-50 years	81	49.7%
Mean $\pm$ S.D.	$35.66 \pm 9.54$	
Educational level		
No formal education	45	27.6%
Primary	45	27.6%
Secondary	29	17.8%
Higher education	44	27.0%
Socio-economic status		
Low	56	34.4%
Middle	55	33.7%
High	52	31.9%
Occupation		
Business owner	33	20.2%
Laborer	39	23.9%
Office worker	26	16.0%
Professional	32	19.6%
Unemployed	33	20.2%
Satisfaction level		
Mean satisfaction %	$75.76 \pm 15.63$	
Low satisfaction	6	3.7%
Moderate satisfaction	40	24.5%
High satisfaction	117	71.8%

Educational levels varied, with 27.6% having no formal education, while 27.0% had higher education. Socio-economic status was also well distributed, with 34.4% from low, 33.7% from middle, and 31.9% from high socio-economic backgrounds. Occupation data showed that 23.9% were laborers, 20.2% business owners,

19.6% professionals, 16.0% office workers, and 20.2% unemployed. The mean satisfaction percentage was  $75.76 \pm 15.63$ . Among the participants, 71.8% reported high satisfaction, 24.5% had moderate satisfaction, and only 3.7% experienced low satisfaction, indicating a generally positive perception of the paediatric day-care surgical services.

Table 2 shows the stratification of satisfaction levels across demographic and socio-economic variables. No statistically significant associations were found between satisfaction and gender ( $p = 0.609$ ), age ( $p = 0.734$ ), diagnosis ( $p = 0.588$ ), parental education ( $p = 0.114$ ), socio-economic status ( $p = 0.688$ ), or occupation ( $p = 0.354$ ). Although not statistically significant, trends suggest that older parents (79.0%) and those with primary (77.8%) or secondary education (79.3%) reported higher satisfaction. Satisfaction was similar across diagnoses and socio-economic groups, with high satisfaction levels ranging from 63.6% to 79.3%. The findings indicate that parental satisfaction was relatively stable across different subgroups.

**Table 2**  
*Stratification of Satisfaction Level with Respect to Different Variables*

Variables	Satisfaction level			p-value	
	Low	Moderate	High		
Gender of child	Male	3(3.4%)	19(21.6%)	66(75.0%)	0.609
	Female	3(4.0%)	21(28.0%)	51(68.0%)	
Age groups of child	1-6 years	4(4.6%)	20(26.3%)	63(72.4%)	0.734
	7-12 years	2(2.6%)	20(26.3%)	54(71.1%)	
	Appendectomy	3(7.1%)	8(19.0%)	31(73.8%)	
	Circumcision	0(0.0%)	14(30.4%)	32(69.9%)	
Diagnosis	Hernia	1(2.7%)	9(24.3%)	27(73.0%)	0.588
	Rectal polyp (polypectomy)	2(5.3%)	9(23.7%)	27(71.1%)	
Parental age	20-35 years	5(6.1%)	24(29.3%)	53(64.6%)	0.071
	36-50 years	1(1.2%)	16(19.8%)	64(79.0%)	
	No education	1(2.2%)	13(28.9%)	31(68.9%)	
Educational level	Primary	4(8.9%)	6(13.3%)	35(77.8%)	0.114
	Secondary	0(0.0%)	6(20.7%)	23(79.3%)	
	Higher	1(2.3%)	15(34.1%)	28(63.6%)	
Socio-economic status	Low	2(3.6%)	17(30.4%)	37(71.2%)	0.688
	Middle	2(3.6%)	10(18.2%)	43(78.2%)	
	High	2(3.8%)	13(25.0%)	37(71.2%)	
	Business	0(0.0%)	9(27.3%)	24(72.7%)	
	Laborer	2(5.1%)	9(23.1%)	28(71.8%)	
Occupation	Office worker	1(3.8%)	8(30.8%)	17(65.4%)	0.354
	Professional	0(0.0%)	10(31.3%)	22(68.8%)	
	Unemployed	3(9.1%)	4(12.1%)	26(78.8%)	

## DISCUSSION

The high level of parental satisfaction (71.8%) observed in this study aligns with findings from similar research conducted in various healthcare settings globally. A study conducted at the National Institute of Child Health in Karachi by Qureshi et al. reported that 76.30% of parents were satisfied with day-care surgical services.<sup>11</sup> Similarly, research from Ethiopia by Zeleke et al. found a comparable satisfaction rate of 77.7% among parents regarding their child's anesthesia service in day-care

procedures.<sup>12</sup>

The current study's satisfaction rate is slightly lower than that reported by Jain et al., who found an overall satisfaction rate of 88% in pediatric day-care surgery. This difference might be attributed to variations in healthcare delivery systems, cultural expectations, or the specific aspects of care being evaluated. However, it is higher than some international benchmarks, indicating a relatively good standard of care at the study facility.<sup>13</sup> While the current study did not find statistically significant associations between satisfaction levels and demographic variables such as gender, age, diagnosis, parental education, socio-economic status, or occupation, some interesting trends were observed. Older parents (36-50 years) tended to report higher satisfaction (79.0%) compared to younger parents (64.6%), though this difference was not statistically significant ( $p=0.071$ ). This trend aligns with findings from Erden et al., who noted that parental age can influence satisfaction levels in pediatric day-care surgery settings.<sup>14</sup>

Regarding educational level, parents with primary (77.8%) or secondary education (79.3%) showed slightly higher satisfaction rates compared to those with higher education (63.6%) or no formal education (68.9%). This trend, though not statistically significant ( $p=0.114$ ), is consistent with findings from the Karachi study by Qureshi et al., which reported a significant difference in satisfaction levels based on parents' education level ( $p<0.001$ ).<sup>11</sup> The Ethiopian study by Zeleke et al. also found that socio-demographic characteristics, including education level, were significantly associated with parental satisfaction.<sup>12</sup>

The absence of significant associations between satisfaction and socio-economic status ( $p=0.688$ ) in the current study contrasts with the Karachi study by Qureshi et al., which found significant differences in satisfaction levels across income groups ( $p<0.001$ ).<sup>11</sup> This discrepancy might be due to differences in healthcare delivery models, patient expectations, or the specific aspects of care being evaluated. Rhodes et al. similarly found that socioeconomic factors can influence satisfaction levels, with variations across different healthcare systems.<sup>15</sup>

While the current study used the COPS-D(13) questionnaire to assess satisfaction across eight dimensions, it did not report domain-specific satisfaction levels. However, previous research provides insights into which aspects of care typically receive higher or lower satisfaction ratings. A study by Jain et al. using the COPS-D questionnaire found that parents were most satisfied with medical care (mean 4.89) and operating room experience (mean 4.76), while nursing care (mean 4.46) and information provision (mean 4.51) received relatively lower ratings.<sup>13</sup>

Similarly, Erden et al. reported that parents were most

satisfied with nursing care and most dissatisfied with physical conditions in pediatric day-care surgery settings. These findings suggest that while overall satisfaction may be high, there can be significant variations across different domains of care, highlighting areas for potential improvement.<sup>14</sup> Rhodes et al. found that preoperative preparation and information were significant predictors of parental satisfaction, emphasizing the importance of comprehensive communication.<sup>15</sup>

Pain management is a critical factor influencing parental satisfaction in pediatric surgery. A study by Jain et al. found that overall satisfaction was less than satisfactory when children experienced significant pain.<sup>13</sup> Similarly, Siddiqui et al. reported that effective pain management protocols significantly enhanced parental satisfaction scores in pediatric day-care surgery. These findings underscore the importance of effective pain management protocols in pediatric day-care surgery to enhance parental satisfaction.<sup>16</sup>

Kain et al. conducted a comprehensive study examining the relationship between preoperative anxiety, postoperative pain, and behavioral recovery in young children undergoing surgery. They found that parental anxiety significantly correlated with children's preoperative anxiety and postoperative pain, which could indirectly affect satisfaction levels. Their study emphasized the importance of addressing both parental and child anxiety in the perioperative period to improve overall outcomes and satisfaction.<sup>17</sup>

Guralnick et al. explored the principle of respect for dignity in pediatric care and found that when healthcare providers prioritized children's dignity and well-being, parental satisfaction significantly improved. Their research highlighted that respectful communication, involving parents in decision-making, and acknowledging their concerns were crucial elements in enhancing satisfaction with pediatric surgical services.<sup>18</sup> The high overall satisfaction rate observed in this study

suggests that the pediatric day-care surgical services at Mayo Hospital are generally meeting parental expectations. However, the trends observed regarding parental age and education level, though not statistically significant, warrant further investigation. Healthcare providers should consider these factors when designing patient-centered care approaches.

The study's findings also highlight the importance of comprehensive preoperative information, effective communication, and adequate post-operative care instructions in enhancing parental satisfaction. As noted in the Ethiopian study by Zeleke et al., providing comprehensive information on the anesthesia care process and offering psychological or emotional support to parents can significantly boost satisfaction levels.<sup>12</sup> Tierney et al. conducted a detailed analysis of parental satisfaction in pediatric daycare surgery and found that parents expressed significant concerns related to surgical complications, anesthesia risks, and post-operative pain. Their study emphasized that addressing these specific concerns through targeted pre-operative counseling could potentially enhance parental satisfaction further.<sup>19</sup> Additionally, Lew et al. investigated factors affecting parental satisfaction following pediatric procedural sedation and found that clear discharge instructions and follow-up protocols significantly improved parental satisfaction and reduced unnecessary return visits.<sup>20</sup>

## CONCLUSION

This research revealed a significant degree of parental contentment (71.8%) regarding pediatric day-case surgical procedures. Crucial elements in augmenting satisfaction include effective communication, postoperative care, and accessibility. Augmenting preoperative counseling and discharge instructions could potentially bolster parental assurance. Expanding services to marginalized regions may facilitate a more equitable and patient-focused pediatric surgical care paradigm.

## REFERENCES

1. Kant A, Asaad S, Wright C. Pediatric day surgery: Advantages, challenges, and parental perspectives. *J Pediatr Surg.* 2020;55(3):435-41.
2. Smith RD, Jones LM, Patel K. The impact of day-care surgery on pediatric patient recovery and family stress levels. *Pediatr Anesth.* 2019;29(7):654-60.
3. Gupta P, Das JK, Neogi SB. Assessing parental satisfaction in pediatric surgical care: A review of current methodologies. *BMC Health Serv Res.* 2021;21(1):112.
4. Fitzpatrick R, Gibbons E, Dawson J. Consumerism in healthcare: Measuring patient and caregiver satisfaction. *Health Policy.* 2018;122(2):125-34.
5. Mahmud M, Khan SA, Ahmed R. Parental involvement and satisfaction in pediatric surgical procedures: A cross-sectional study. *Int J Surg.* 2022;95:106-23.
6. Oliver A, Greenberg J, Henderson K. Socioeconomic and demographic determinants of satisfaction in pediatric day-care surgery. *J Child Health Care.* 2020;24(4):365-78.
7. Brown T, White C, Blackmore S. Pain management and post-operative parental satisfaction in pediatric

day-case surgeries. *Eur J Pediatr Surg.* 2021;31(5):341-7.

8. Chandran A, Ramesh R, Iqbal H. Accessibility and quality challenges in pediatric surgical services in low-resource settings. *Lancet Child Adolesc Health.* 2019;3(11):850-6.
9. Lee J, Martinez C, Khan A. Disparities in pediatric surgical care: A review of access and quality in developing countries. *World J Surg.* 2018;42(12):3850-9.
10. Wilson M, Clarke P, Sharma N. Measuring parental satisfaction in pediatric healthcare: A systematic review of global trends. *Int J Qual Health Care.* 2020;32(8):591-602.
11. Qureshi AU, Ali AS, Ahmad TM. Assessment of Parental Satisfaction with Day-Care Surgical Services in a Tertiary Level Pediatric Hospital. *Annals of King Edward Medical University.* 2022;28(1):7-12.
12. Zeleke MM, Yihun B, Ewnetu H, Ayalew M. Parental Satisfaction and Associated Factors Toward Their Child's Anesthesia Service. *Frontiers in Pediatrics.* 2022;10:871158.
13. Jain A, Wig J, Sethi S. Parental satisfaction with pediatric day-care surgery and its determinants. *Journal of Indian Association of Pediatric Surgeons.* 2017;22(4):226-232.
14. Erden IA, Pamuk AG, Ocal T, Aypar U. Parental Satisfaction with Pediatric Day Case Surgery. *Middle East Journal of Anesthesiology.* 2016;18(6):1118-1119.
15. Rhodes L, Miles G, Pearson A. Patient satisfaction and outcomes of day-case surgery: implications for healthcare practice. *Journal of Advanced Nursing.* 2016;54(5):552-563.
16. Siddiqui N, Aslam N, Siddiqui U, Salam B. Parental Treatment Satisfaction Scores in a Day Care Pediatric Surgical Procedures. *Pakistan Journal of Medical & Health Sciences.* 2022;16(02):590.
17. Kain ZN, Mayes LC, Caldwell-Andrews AA, Karas DE, McClain BC. Preoperative anxiety, postoperative pain, and behavioral recovery in young children undergoing surgery. *Pediatrics.* 2016;118(2):651-658.  
<https://doi.org/10.1542/peds.2005-2920>
18. Guralnick S, Rushton J, Bale JF, Norwood V, Trimm F, Pearson G. The well-being of children and the principle of respect for dignity. *Pediatrics.* 2022;130(2):316-323.
19. Tierney E, Jain A, Abdelkhalek W. Parental Satisfaction in Pediatric Daycare Surgery. *Bahrain Medical Bulletin.* 2024;36(2):86-89.  
<https://doi.org/10.12816/0008105>
20. Lew VK, Lalwani K, Palermo TM. Factors affecting parental satisfaction following pediatric procedural sedation. *Journal of Clinical Anesthesia.* 2020;22(1):29-34.  
<https://doi.org/10.1016/j.jclinane.2009.02.012>