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Parental Satisfaction of Child's Perioperative Care

Short Title: Parental satisfaction of child's perioperative care

Article Category: Original Research

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What's Known on This Subject:

- American patients primarily value staff friendliness, clear healthcare provider communication, and quality interactions with providers in determining their satisfaction with healthcare.
- Patient satisfaction correlates with higher medical adherence to treatments and prevention measures which may lead to improved clinical outcomes.

What This Study Adds:

- Lower parent and higher child social functioning are predictive of higher parental satisfaction with their child's perioperative care.

Abstract

Background: Satisfaction in the hospital setting is an important component of both hospital funding and patient experience. When it comes to a child's hospital experience, parent satisfaction of their child's perioperative care is also necessary to understand. However, little research has been conducted on the predictors of this outcome. Therefore, the purpose of this current study was to validate a priori selected predictors for parental satisfaction in their child's perioperative process.

Methods: Eight hundred and ten pediatric patients who underwent tonsillectomy and adenoidectomy surgery and their parents were included in this study. The primary outcome was assessed using a 21-item parent satisfaction questionnaire resulting in three satisfaction scores: overall care satisfaction, OR/induction satisfaction, and total satisfaction.

Results: Descriptive statistics and correlational analysis found that sedative-premedication, parental presence at anesthesia induction, child social functioning, parental anxiety, and language were all significant predictors of various components of the satisfaction score. Regression models, however, revealed that only parent anxiety and child social functioning remained significant predictors such that parents who reported lower state anxiety (OR/induction satisfaction: OR = 0.975, 95% CI [0.957, 0.994]; total satisfaction: OR = 0.968, 95% CI [0.943, 0.993]) and who had higher socially functioning children (overall care satisfaction: OR = 1.019, 95% CI [1.005, 1.033]; OR/induction satisfaction; OR = 1.011, 95% CI [1.000, 1.022]) were significantly more satisfied with the perioperative care they received.

Conclusion: Lower parent anxiety and higher child social functioning were predictive of higher parental satisfaction scores.

KEY WORDS: ambulatory surgery, anxiety, child social functioning, mYPAS, parental engagement, parental stress

Introduction

The American medical environment is currently experiencing a dramatic transformation and much of that relies on the Triple Aim initiative that was developed by Don Berwick of the Institute for Healthcare Improvement. This initiative was developed in 2008 and focuses on revolutionizing U.S. healthcare through three main tenants: (a) improving individuals' experience of healthcare, (b) improving the health of an aging U.S. population and (c) reducing the ever-rising per capita costs of health care.¹ Consequently, the Triple Aim construct has placed new importance on patient satisfaction as it seeks to improve the healthcare experience for all individuals.¹ The initiative views the health-insured population as consumers within the healthcare marketplace who have needs, preferences, and expectations for the services they are purchasing. Accordingly, there is a new need in the U.S. healthcare system to measure and improve upon its consumer satisfaction. Further importance has been placed on patient satisfaction with the advent of the Hospital Consumer Assessment of Healthcare Providers and Systems survey and Hospital Value-Based Purchasing.² Hospital systems are now formally assessed by their patients' satisfaction scores, with poorer-performing institutions at risk of losing millions of dollars annually.³ Based on their satisfaction ratings, patient safety, and other core measures, hospitals can retain or lose upwards of 1.5% of their annual Medicare reimbursement payments.³ For the 2016 fiscal year alone, there will be \$1.5 billion in Value-Based Purchasing incentive reimbursements available to the over 3000 participating U.S. hospitals.⁴

Previous studies in adults have demonstrated that American patients primarily value staff friendliness, clear healthcare provider communication, and quality interactions with providers in determining their satisfaction with healthcare.^{1,2,5} Clinical studies have shown that increased age, the male sex, and a high social status all correlate with higher patient satisfaction scores.⁶⁻⁹ Conversely, possessing more education, being non-English speaking, and suffering from acute psychological distress relate to lower satisfaction scores.^{7,10-12}

Unfortunately, few studies have focused on evaluating parental satisfaction as it pertains to their children's healthcare. Weech-Maldonado and colleagues established that parent age, language barriers, and their child's health status all influence parental satisfaction.¹³ Furthermore, work by Kain and colleagues found the use of midazolam effectively improves preoperative anxiety,¹⁴ while parental presence during the induction of anesthesia significantly improves both parental preoperative anxiety and their satisfaction with the operating room (OR) separation process and overall care.^{14,15} A recent publication by Ehwerhemuepha and Kain has used National Research Corporation Picker Outpatient Surgery survey data and has found that parental recommendation of a surgical facility to friends and family depends on a number of variables with the quality of perioperative communication with the anesthesiologist being the most predictive item.¹⁶ We submit that more research must be done in this area to analyze other potential predictors for parental satisfaction such as child and parent preoperative anxiety levels.^{17,18}

The primary purpose of this current study was to establish if child and parent preoperative anxiety levels predict parental satisfaction of their child's perioperative process. We hypothesized that increased preoperative anxiety in both children and parents would be associated with lower parent satisfaction scores. Additionally, we predicted that higher levels of parental perceptions of pain medication would impact parental satisfaction.

Methods

Participants

The 810 pediatric patients and their parents included in the study were from a larger, Eunice Kennedy Shriver National Institute of Child Health and Human Development (R01HD048935) multi-site study.¹⁷ Child-parent dyads from a cross-sectional phase of the larger study who completed baseline data and the satisfaction questionnaire were included in this study. It should be noted that data presented in this manuscript were not previously reported.^{17,18} The sample (n = 810) was taken from four major children's hospitals in the U.S. (Children's Hospital of Los Angeles, Children's Hospital of Orange County-University of California Irvine, Stanford University, and Colorado Children's Hospital). Children included within the study underwent outpatient tonsillectomy and/or adenoidectomy and ranged between the ages of 2 and 15 years old.¹⁷ Further inclusion criteria required children to have a patient physical health status of I-II as determined by the American Society of Anesthesiologists (ASA), be within the normal range of development, and be from a family that primarily speaks either English or Spanish. Exclusion criteria included an ASA patient health status of III-V, developmental delay, history of premature birth (32 weeks or less gestational age), and any chronic illness. Informed written assent and consent was obtained from all children who were age appropriate and their parent(s) or legal guardian(s). Each study site's institutional review board approved this study.

Data Collection

Parents were approached during their pre-operative appointment or the day of surgery, consented to participate, and completed the standard protocol of measures while either in the preoperative area or in the surgical waiting area, regardless of study site. All parent-reported data were obtained prior to being updated on the progress and/or completion of their child's surgery. Trained researchers recorded child anxiety levels using the modified Yale-preoperative anxiety scale (mYPAS) during the anesthesia induction process before surgery.

Measures

Parents were asked for general demographic information regarding both themselves and their child. Information collected included ethnicity, race, age, education, and gender. Participants' cultural background was further characterized with information collected regarding countries of parents' previous residence and primary and secondary languages spoken by the parent-child dyads in the home. Additionally, parental occupation and income level, marital status, and education were collected.

Parental satisfaction. A 21-item satisfaction questionnaire previously developed by Kain et al¹⁹ and used in other studies of parent satisfaction was used in calculating parental satisfaction with their child's surgical experience (see Appendix S1).¹⁵ Parental satisfaction was determined utilizing a series of statements the parents were asked in the recovery room to answer using a 5-cm visual analog scale marked on one end as "strongly disagree" and on the other as "strongly agree".¹⁵ This questionnaire consists of 21 items assessing parental satisfaction with their hospital experience, communication with healthcare providers, their child's induction process and their separation from their child to the operating room. A qualitative analysis of each survey item was performed to conceptually group items together, which depicted the same aspect of the perioperative care process. The survey items were each categorized into one of two groups: (a) parental satisfaction with their child's overall care and (b) parental satisfaction with their child's induction and OR separation processes. Average scores for total satisfaction and each of the aforementioned groups were calculated. Through inter-item correlation matrix, one item within each group demonstrated poor correlation to that of the other items within the group and was subsequently removed from the survey analysis to improve the overall survey. The two items removed were "My child went to sleep in the worst way possible" and "The doctors and nurses who took care of my child did not communicate well with me or my child." The final satisfaction questionnaire analyzed consisted of 19 items with 11 items categorized within the group regarding overall care satisfaction and eight items categorized within the group regarding induction and operating

room separation satisfaction. Reliability analysis was performed on the entire questionnaire as well as for the groups individually with each demonstrating high (Cronbach $\alpha > 0.9$) internal consistency. The current paper presents the analysis for each one of the constructs (overall care, induction/operating room, and total satisfaction).

Parent and child state and trait anxiety. The State-Trait Anxiety Inventory (STAI) is a widely-used self-report anxiety assessment instrument with versions available for children, adolescents, and adults.²⁰⁻²² The child (STAIC) and adolescent (ASTAI) questionnaires are constructed similarly to the adult version (STAI).²¹ The assessment is composed of two separate scales used in assessing situational (STAI-State) and baseline (STAI-Trait) anxiety levels.²² All versions of the STAI assessment have exhibited good validity and internal consistency.²⁰⁻²² The STAI assessment was translated into Spanish and was found to also exhibit good validity, internal consistency and possess strong correlations with the English-language version.²³ In the analyses, we used parent state (STAI-State) and trait (STAI-Trait) anxiety, child state (STAIC-State) and trait (STAIC-Trait) anxiety, and adolescent state (ASTAI-State) and trait (ASTAI-Trait) anxiety as independent predictors.

Child preoperative anxiety. The mYPAS was used to assess the child's preoperative anxiety. Contrary to the STAI, this tool relies on observational data rather than self-reported data and was previously validated by Kain et al.²⁴⁻²⁶ The scale is composed of items organized within five domains of behavior (emotional expressivity, state of arousal, activity, vocalization, and use of parent) demonstrating anxiety in young children. The measure has shown good validity when compared to other global behavioral measures of anxiety, including the STAI.^{24,25} The mYPAS was used when the child entered the operating room and when the anesthesia mask was introduced to the child. We also separated this variable based on whether children received preoperative medication or not.

Child's Quality of Life. The Pediatric Quality of Life (PedsQL) generic core module was used to assess the child's physical and psychosocial health.²⁷ In this study, young children (5-7 years old),

children (8-12 years old), and adolescents (13-18 years old) completed appropriate versions of the PedsQL core module. For the purposes of analyses, we used only one PedsQL variable that reflected the data that the patient provided. A 5-point response scale was used including the scale options 0, 25, 50, 75, and 100. Additionally, parents with children 2-18 years old completed reports specific to having a child aged 2-4 years old (toddler), 5-7 (young child), 8-12 (child), and 13-18 (adolescent). Each version of the PedsQL generic core module is composed of 23 items which contribute to one Total and four sub-scores: (a) Physical Functioning, (b) Emotional Functioning, (c) Social Functioning and (d) School Functioning.²⁷ The reliability, validity and internal consistency of the PedsQL English and Spanish translations have been long-established in the literature.^{27,28}

Parental pain medication attitudes. The Medication Attitude Questionnaire (MAQ) is a self-report 16 item questionnaire that is used to evaluate parental attitudes towards the use of pain medication in the treatment of children's pain.²⁵ Parents responded to 27 items each on a seven-point Likert scale ranging from strongly disagree to strongly agree. Respondents were to consider "pain medication" as any over-the-counter analgesic taken any time or any medication prescribed specifically for a painful event.²⁵ The MAQ has three subscales: (a) Appropriate Use Attitude, (b) Fear of Side Effects, and (c) Avoidance. Items in each subscale were summed together with higher scores indicating stronger attitudes.²⁵ Each subscale was used as a separate predictor variable. Internal consistency of the overall scale and sub-scores have been shown to be acceptable to good.²⁵

Statistical Analysis

Descriptive statistics were used to analyze the demographic data of the parents and children within the study as well as the parental satisfaction scores. Due to the high skewness and kurtosis of the raw satisfaction data, overall care, induction/operating room separation, and total satisfaction scores were dichotomized to be used as dependent variables in all models.²⁹⁻³¹ Demographic variables included parental and child age, child gender, which parent completed the study, parental marital

status, primary language spoken by parent and child, race and ethnicity of parent and child, parental education, and household income. Descriptive statistics also detail whether or not children received preoperative medication and had their parent present with them during induction of anesthesia.

Descriptive statistics were also used to present survey scores pertaining to parent satisfaction, child and parent anxiety (STAI and mYPAS), and parental attitudes towards pain medications (MAQ). All normally-distributed data were presented by means (\bar{x}) and SD while skewed data were presented as medians and interquartile ranges (IQR).³²

All predictor variables were examined separately in logistic regression models predicting each of the three dependent satisfaction variables. In the logistic regression model, we assigned a 0 if the parents had a satisfaction score less than 90% and 1 if the parents had a satisfaction score 90% or greater. This methodology is being currently used by Center for Medical Services and as such is considered the standard of analysis in this domain. Subsequently, predictor variables that were significant in those logistic regression models were then all placed together in logistic regression models predicting the dependent variables of interest.

Results

Demographic data are presented in Table 1 and a full description of survey and assessment result statistics can be found in Table 2. For the dichotomous dependent variables, 71%, 68%, and 69% of parents reported a score of 90 and above for overall care, operating room induction, and total score satisfaction, respectively.

Univariable Logistic Regression Models

Independent effects of demographic variables and assessment variables on the satisfaction dependent variables are presented in Table 3.

Overall care satisfaction. Parents of children who received preoperative medication were more likely to be satisfied with the overall care of their child (OR = 2.934, 95% CI [1.796, 4.794]). Parents who were present at induction of anesthesia were more likely to be satisfied with the overall care of their child (OR = 2.796, 95% CI [1.707, 4.582]). Parents of children with higher social function were more likely to be satisfied with the overall care of their child (OR = 1.023, 95% CI [1.009, 1.036]).

Operating room/induction satisfaction. Parents of children who received preoperative medication were more likely to be satisfied with their child's care at operating room/induction (OR = 1.579, 95% CI [1.107, 2.252]). Parents who were present at induction of anesthesia were more likely to be satisfied with their child's care operating room/induction (OR = 1.687, 95% CI [1.184, 2.404]). Parents who has less state anxiety were more likely to be satisfied with their child's care operating room/induction (OR = 0.973, 95% CI [0.955, 0.991]). Parents of children with higher social function were more likely to be satisfied with their child's care operating room/induction (OR = 1.014, 95% CI [1.003, 1.024]).

Total satisfaction. Parents who spoke English were more likely to rate their total satisfaction as higher (OR = 1.816, 95% CI [1.064, 3.098]). Parents of children who received preoperative medication were more likely to be satisfied with their child's care (OR = 2.356, 95% CI [1.440, 3.855]). Parents

who were present at induction of anesthesia were more likely to be satisfied with their child's care (OR = 2.163, 95% CI [1.324, 3.533]). Parents who has less state anxiety were more likely to be satisfied with their child's care (OR = 0.961, 95% CI [0.938, 0.985]).

Multivariable Logistic Regression Models

As a next step, we conducted a multivariable regression model for each of the domains (see Table 4). Potential predictors were inputted based on the correlational analysis.

Overall care satisfaction.

As can be seen above, sedative-premedication, parental presence at induction, and child social functioning were all significant predictors of overall care satisfaction. When entered into a model simultaneously, only child social functioning remained significant such that parents of children who scored higher on social functioning rated their overall care satisfaction as higher (OR = 1.019, 95% CI [1.005, 1.033], see Table 4).

OR/induction satisfaction.

Premedication, parental presence at induction, parental anxiety, and social functioning were all significant predictors of parent satisfaction with OR/induction. When these variables were entered into a model simultaneously, only parent anxiety and child social functioning remained significant such that parents with lower state anxiety (OR = 0.975, 95% CI [0.957, 0.994]) and children with higher social functioning (OR = 1.011, 95% CI [1.000, 1.022]) rated their satisfaction with induction as higher.

Total satisfaction.

Language, sedative premedication, parental presence at induction, and parental anxiety were all significant predictors of parent total satisfaction. When these variables were entered into a model simultaneously, only parental anxiety remained significant such that parents who were lower in state anxiety reported higher total satisfaction (OR = 0.968, 95% CI [0.943, 0.993]).

Discussion

The purpose of this study was to examine potential predictors for parents' satisfaction with their child's surgical experience. Descriptive statistics and correlational analysis found that sedative-premedication, parental presence at anesthesia induction, child social functioning, parental anxiety, and language were all significant predictors of various components of the satisfaction tool used. Regression models, however, revealed that only parent anxiety and child social functioning remained significant such that parents who reported lower state anxiety and had more socially functioning children were significantly more satisfied with the care they received during the perioperative phase.

This study also demonstrated that parental satisfaction with their children's perioperative care is much more similar across the populations than previous studies suggest. Demographic variables such as parent's age, race, ethnicity and education level were not shown to be predictive of parent satisfaction scores, contrary to what others have found.^{13,33} Furthermore, although factors such as parental medication attitudes towards pain medications were hypothesized as potential predictors of satisfaction,³³ this was not confirmed in the regression analysis we conducted.

The current results help to better focus on improving the delivery of pediatric perioperative care in America today, specifically under the Triple Aim construct. While continuing to provide quality care to diverse populations, attention must now be focused on improving the surgical experience for the parents who are suffering from high levels of anxiety during the process. Increased anxiety in parents while their children are undergoing surgery has previously been described³⁴⁻³⁷ but to date most interventions are directed at reduction of anxiety in the children and not the parents. While some interventions to reduced parental anxiety have been suggested in the literature,^{38,39} much research is still needed in this area. Furthermore, anxiety should be assessed in all families so that highly anxious parents can be managed in a way to match their unique needs and in turn potentially improve their satisfaction. Within the domain of satisfaction of overall care, child social functioning was significant such that parents of children who scored higher on social functioning rated their overall care satisfaction as higher.

Unfortunately, this finding is more of theoretical benefit as an intervention could not be developed based on this.

Despite the new information gathered from this study, it was not without limitations. Patients were generally healthy and underwent a procedure with a relatively low risk of complications, potentially skewing satisfaction in a positive manner. Additionally, Spanish-speaking parents were given many translated resources during the study process. While this improved communication dramatically, this may not reflect the situation in some healthcare institutions across this country today. Satisfaction with healthcare has been shown to be related to communication between providers, patients, and their families, a factor that may be much more important when proper forms of communication are eliminated. Given the unique patient population and resources of this hospital setting, further research in this area is needed to confirm the relationships between parent anxiety, child social functioning, and parent satisfaction. Also, although our measure of parent satisfaction was a validated measure,^{15,19} we did eliminate two items (one from each subscale) that did not produce high internal consistency with the other items. Eliminating these items provided us with a measure that was more internally consistent but was slightly different from the originally developed scale.

In conclusion, we present a relationship between parent anxiety and parental satisfaction in the setting of a commonly encountered hospital procedure. Within the context of “volume to value” and the “triple aim” this is a highly significant finding that should motivate hospital leaders to invest resources in interventions aimed at closer assessment of, prevention as well and reduction of child and parental preoperative anxiety.

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Conflicts of Interest: No conflicts of interest declared.

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Table 1. Demographic Data

| | Mothers | Fathers | Children |
|--|------------------|------------------|-----------------|
| Age in years (mean \pm SD) | 34.95 \pm 6.83 | 37.17 \pm 7.36 | 6.06 \pm 2.92 |
| Gender, child [n (%)] | | | |
| Male | | | 428 (53.1) |
| Female | | | 378 (46.9) |
| Parent who completed study packet [n, (%total)] | 715 (86.5) | 95 (11.5) | |
| Marital status of parents [n (%)] | | | |
| Single | 119 (15.1) | | |
| Married | 525 (66.5) | | |
| Divorced | 40 (5.1) | | |
| Widowed | 5 (0.6) | | |
| Live-in Partner | 37 (4.7) | | |
| Other | 32 (4.1) | | |
| Primary Language Spoken [n (%)] | | | |
| English | 514 (64) | | |
| Spanish | 256 (32) | | |
| Other | 29 (4) | | |
| Race/Language [n, (%)] | | | |
| English-Speaking White | 229 (33.3) | | |
| English-Speaking Hispanic | 237 (34.5) | | |
| Spanish-Speaking Hispanic | 221 (32.2) | | |
| Education, years completed, parent (mean \pm SD) | Mother | Father | |
| | 13.40 \pm 3.69 | 12.95 \pm 3.93 | |
| Household Income [n (%)] | | | |
| Less than \$20,000 | 86 (23.7) | | |
| \$21,000 to 30,000 | 107 (14.2) | | |
| \$31,000 to 50,000 | 97 (12.8) | | |
| \$51,000 to 80,000 | 74 (9.8) | | |
| more than \$80,000 | 63 (25.1) | | |
| Prefer not to answer | 109 (14.4) | | |
| Received Pre-Operative Sedative [n %] | | | |
| Yes | | | 463 (56.3) |
| No | | | 360 (43.7) |
| Parent Present during Induction Process [n %] | | | |
| Yes | | | 335 (40.7) |
| No | | | 488 (59.3) |

Table 2. Assessment Statistics

| Assessment | Score | Sample Size |
|---|-------------------------|-------------|
| Parental Satisfaction Survey | Median (IQR) | |
| Overall Care Satisfaction | 94.73 (10.50) | 358 |
| Induction/OR Separation Satisfaction | 95.00 (11.50) | 569 |
| Total Satisfaction | 93.84 (10.89) | 318 |
| State-Trait Anxiety Inventory | \bar{x} (<i>SD</i>) | |
| STAIS: Adult (Parent) Form | 40.53 (10.10) | 768 |
| m-YPAS | | |
| Entrance to the OR | 37.70 (15.25) | 805 |
| Introduction of Anesthesia Mask | 44.70 (17.94) | 806 |
| Medication Attitudes Questionnaire | | 746 |
| Appropriate Use | 19.16 (4.31) | |
| Fear of Side Effects | 21.68 (4.31) | |
| Avoidance | 25.94 (8.43) | |

Table 3. Satisfaction Scores by Demographic and Medical Variables

*p < .05

| | Parental Satisfaction Score | | |
|--|------------------------------|------------------------------|------------------------------|
| | Overall Care | Induction/OR | Total Satisfaction |
| | OR (95% CI) | OR (95% CI) | OR (95% CI) |
| Mom Age | 0.995 (0.962, 1.029) | 0.998 (0.973, 1.025) | 1.003 (0.968, 1.038) |
| Dad Age | 0.976 (0.946, 1.008) | 0.986 (0.961, 1.011) | 0.977 (0.945, 1.010) |
| Mom Education | 0.999 (0.931, 1.071) | 0.955 (0.908, 1.005) | 1.012 (0.941, 1.088) |
| Dad Education | 0.990 (0.925, 1.060) | 0.954 (0.909, 1.001) | 0.992 (0.924, 1.066) |
| Child Language | 1.609 (0.962, 2.691) | 0.908 (0.609, 1.352) | 1.816* (1.064, 3.098) |
| Child Age | 1.056 (0.972, 1.146) | 1.033 (0.971, 1.100) | 1.060 (0.974, 1.153) |
| Child Gender | 0.958 (0.606, 1.513) | 1.079 (0.758, 1.535) | 0.879 (0.548, 1.413) |
| Received Preoperative Sedative | 2.934* (1.796, 4.794) | 1.579* (1.107, 2.252) | 2.356* (1.440, 3.855) |
| Parent Present during Induction of Anesthesia (PPIA) | 2.796* (1.707, 4.582) | 1.687* (1.184, 2.404) | 2.163* (1.324, 3.533) |
| Parent Anxiety- State | 0.967 (0.945, 0.990) | 0.973* (0.955, 0.991) | 0.961* (0.938, 0.985) |
| Parent Anxiety- Trait | 0.985 (0.956, 1.014) | 0.995 (0.973, 1.017) | 0.978 (0.949, 1.008) |
| Adolescent Anxiety- State | 1.038 (0.920, 1.172) | 0.980 (0.914, 1.050) | 0.973 (0.857, 1.106) |
| Adolescent Anxiety- Trait | 0.972 (0.868, 1.090) | 0.953 (0.862, 1.054) | 0.938 (0.829, 1.061) |
| Child Anxiety- State | 0.886 (0.753, 1.043) | 0.999 (0.917, 1.088) | 0.876 (0.752, 1.021) |
| Child Anxiety- Trait | 0.919 (0.795, 1.062) | 1.055 (0.966, 1.151) | 0.994 (0.876, 1.128) |
| mYPAS Entrance to OR | 0.992 (0.978, 1.007) | 0.995 (0.984, 1.007) | 0.993 (0.977, 1.008) |
| mYPAS Introduction of Anesthesia Mask | 0.991 (0.979, 1.003) | 0.992 (0.982, 1.002) | 0.992 (0.980, 1.005) |
| mYPAS Entrance to OR with Sedation | 0.994 (0.980, 1.008) | 0.995 (0.983, 1.007) | 0.922 (0.977, 1.007) |
| mYPAS Introduction of Anesthesia Mask with Sedation | 0.993 (0.982, 1.004) | 0.993 (0.984, 1.003) | 0.993 (0.981, 1.005) |
| Child Physical Functioning | 1.009 (0.998, 1.020) | 1.007 (0.998, 1.016) | 1.010 (0.999, 1.022) |
| Child Emotional Functioning | 1.004 (0.990, 1.018) | 0.997 (0.986, 1.008) | 0.999 (0.984, 1.013) |
| Child Social Functioning | 1.023* (1.009, 1.036) | 1.014* (1.003, 1.024) | 1.013 (1.000, 1.027) |
| Child School Functioning | 1.007 (0.995, 1.019) | 1.006 (0.997, 1.015) | 1.008 (0.996, 1.021) |
| Parental Appropriate Use of Medications | 1.040 (0.984, 1.098) | 1.020 (0.977, 1.064) | 1.031 (0.973, 1.093) |
| Parental Fear of Side Effects of Medications | 1.018 (0.964, 1.075) | 1.027 (0.986, 1.071) | 1.015 (0.959, 1.074) |
| Parental Avoidance of Medications | 0.998 (0.970, 1.026) | 1.010 (0.988, 1.032) | 0.990 (0.962, 1.019) |

Table 4. Multinomial Logistic Regression Models

***p < .05**

| Parental Satisfaction Score | | | |
|--|------------------------------|------------------------------|------------------------------|
| | Overall Care | Induction/OR | Total Satisfaction |
| | OR (95% CI) | OR (95% CI) | OR (95% CI) |
| Child Language | - | - | 1.757 (0.977, 3.162) |
| Received Preoperative Sedative | 0.486 (0.234, 1.011) | 0.816 (0.521, 1.278) | 0.585 (0.278, 1.232) |
| Parent Present during Induction of Anesthesia (PPIA) | 1.582 (0.757, 3.306) | 1.369 (0.871, 2.153) | 1.190 (0.571, 2.480) |
| Parent Anxiety-State | - | 0.975* (0.957, 0.994) | 0.968* (0.943, 0.993) |
| Child Social Functioning | 1.019* (1.005, 1.033) | 1.011* (1.000, 1.022) | - |