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Communication is The Key: Does Strategic Perioperative Counseling Decrease Anxiety in Parents of The Pediatric Patient Undergoing Surgery?

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ABSTRACT

Introduction: Anxiety is very common during the perioperative period. Anxiety among the parents of pediatric patients undergoing surgery is also encountered frequently despite the preoperative counseling which is a common standard of practice. The aim of the study was to determine the effectiveness of strategic perioperative counseling to relieve the anxiety among the parents of pediatric patient posted for surgery.

Objectives: To measure the impact of the implemented communication strategies on anxiety levels experienced by parents.

Methodology: This is a randomized observational cross-sectional study. After the approval of IRC, A total of 100 samples was chosen. The samples were randomly divided into two groups, control group (group1) and intervention group (group 2). The control group were counselled as per standard practice at preoperative time. The intervention group were counseled at 3 points namely preoperative, intraoperative and postoperative). The beck anxiety inventory score (Nepali version) will be handed to the family members of the patient undergoing pediatric surgery to be filled post operatively.

Results: The intervention group where the family members received strategic counselling had lower anxiety scores than the group which received only standard counselling (preoperative). The education level of the sample was also correlated. The data suggests that higher education level had lower anxiety score than the ones who had lower education level.

Conclusion: We conclude that strategic perioperative counseling decreases the anxiety among the parents of pediatric patient undergoing surgery.

INTRODUCTION

Anxiety is an emotional state characterized by feelings of worry, nervousness, or unease, often associated with situations that have an uncertain outcome.[1]Anxiety is a frequently reported emotional response during the perioperative period, affecting up to 60% of individuals. Despite elective surgeries being planned and routine, children may perceive them as a threat to their physical well-being. This situation is particularly challenging for parents.[2]

During the preoperative assessment of pediatric patients, it is common to encounter parental anxiety. Approximately 47% of parents whose children are admitted for elective surgery experience anxiety-related symptoms.[3] Parents state anxiety can manifest in both physical and psychological symptoms, impacting their ability to function normally.

This concern extends not only to the family but also to healthcare professionals caring for the child.[4] Consequently, parental anxiety can influence the anxiety levels of their children or adolescents. It is also associated with negative behavioral changes in children following surgery, such as nightmares, separation anxiety, eating difficulties, and fear.[5]

While preoperative counseling has proven to be a valuable tool in alleviating patient and parental anxiety, there remains a significant need to address the anxiety experienced by parents waiting outside the operating room.The reduction of parental anxiety is directly correlated with the provision of information and counseling before the operation.[6]Effective perioperative communication and attentiveness have been identified as the most significant factors influencing how surgeons are perceived in terms of their performance.[7]Parents play a crucial role in preparing and assisting children in coping with surgery. Therefore, it is the responsibility of healthcare professionals working in pediatric surgical units to adequately prepare both children and their parents for the upcoming procedure.[8]

METHODOLOGY

The descriptive comparative observational cross-sectional study was conducted after the approval of IRC. The study was conducted on all the parents of pediatric patient undergoing surgery in Birat Medical College Teaching Hospital. The exclusion criteria were family member under 18 years of age, the family member who were not able to correlate with the beck anxiety inventory, patients with families who would not be wait in the hospital.

A total of 100 patient were planned to be enrolled into the study after calculating using standard deviation and mean from a previous study. The sampling technique was non probability convenience sampling. The subjects were divided into two groups by computer generated randomization. The group one was the control group, who was counseled at the preoperative period. The group two, the intervention group, was counselled three times during the surgery. Once at preoperative period then during the middle of surgery period then at the end of surgery. The family members were counselled about the surgical procedure/process, probable surgical complication, anesthetic process and complications. They were also counselled about expected time and outcome of surgery. The spike protocol was used as a counselling format.

The Performa was given to the family member after the patient was shifted to post-operative ward. The Performa contained the demographic data and the becks anxiety inventory. The becks anxiety inventory contains 21 questions on to be ticked by family member. The validated Nepali version of becks anxiety inventory was used for better understanding for the family members. The score of 0-22 suggests mild anxiety, 0-34 suggests moderate anxiety,>35 suggests severe anxiety. The inventory was taken back from the family members and after the end of surgery, the patient was shifted to post anesthetic care unit.

MS Excel was used for data entry and it was analyzed by IBM SPSS version 23. The mass and standard deviation was used for continuous data while frequency and percentage was used for categorized data. The chi-square test was used for categorized variables, while independent t test was used for the evaluation of continuous variables. A p value of < 0.05 was considered as significant. The sample size was calculated based on the standard deviation (1.43) for level of anxiety in study by Lindsay S. Howe et al. [9] Considering effect size (d) of 0.6 and power of 80% and type 1 error of 5%, the sample size was calculated to be 100 participants.

RESULTS

A total study population of 135 enrolled. Out of which total of 100 family members were allocated into the research. The 35 of them met the exclusion criteria. Out of 100 data who were enrolled into the study, 50 were randomized into the group1 while the other 50 were enrolled into group 2.

The group 1 fell into the control group who received standard care who received only preoperative counseling while the group2 fell into the intervention group who received perioperative counselling at 3 different times. The three different times were at the start of surgery, at the middle of surgery and at end of surgery. The descriptive analysis was done.

Table 1: Table of demography

		Value	Frequency%
Age (years) mean± SD		29.71±4.73	
Sex	Male	63	63%
	female	37	37%
Not educated		9	9%
Secondary education		3	3%
Intermediate		8	8%
Bachelors		44	44%
Masters		36	36%

Standard deviation-SD

The demographic information indicates that the average age in our study was 29.71, with a standard deviation of 4.73. Within our study population, 63 individuals were male and 37 were female. Among the total sample, 9 had no formal education, 3 had completed secondary education, 8 had an intermediate level of education, 44 had obtained a bachelor's degree, and 36 had earned a master's degree.

Table 2: Comparison of total anxiety with group1 and group 2

	Group 1(mean ± SD)	Group 2(mean ± SD)	P value
Total anxiety	31.48± 6.58	15.60± 3.84	0.00

SD=standard deviation

In group 1, the average total anxiety score was 31.48, with a standard deviation of 6.58, whereas in group 2, the mean score was 25.60, with a standard deviation of 3.84. The data indicates a notable difference between the two groups as the p-value was calculated as 0.00 (<0.001), signifying statistical significance

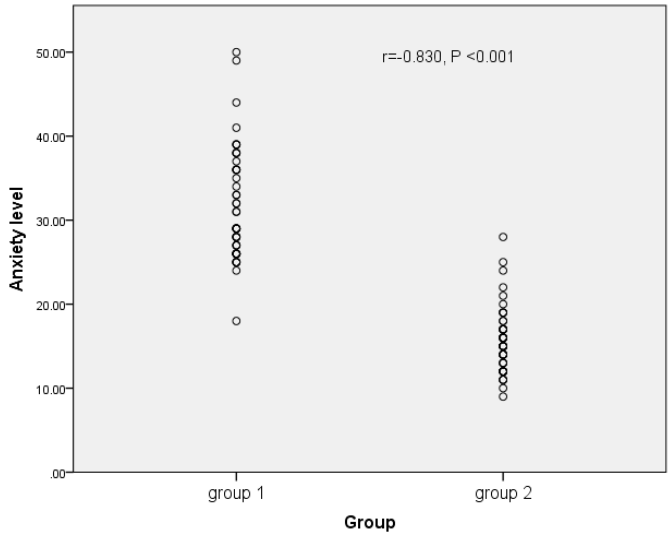

Fig 1: Comparison of anxiety level with group 1 and group 2

The individuals sampled in group 2 exhibited notably lower levels of anxiety compared to those in group 1. There exists a negative correlation between perioperative counseling strategies and anxiety levels, denoted by a statistically significant correlation coefficient of r=0.830 (p<0.001).

Table 3: Comparison of total anxiety with level of education

	Below bachelors (mean± SD)	Above bachelor (mean± SD)	P value
Total anxiety	35.80±7.29	20.27±7.23	0.00

SD=standard deviation

The data indicates that among the total number of family members, 21 had an education level below a bachelor's degree, whereas 79 had education levels at or above a bachelor's degree. The average anxiety level observed in our study for those with an education level below a bachelor's was 35.80, with a standard deviation of 7.29, whereas for those with education at or above a bachelor's degree, the average anxiety level was 20.27, with a standard deviation of 7.23. These statistics highlight a significant difference between the two groups, supported by a p-value of 0.00 (less than 0.001).

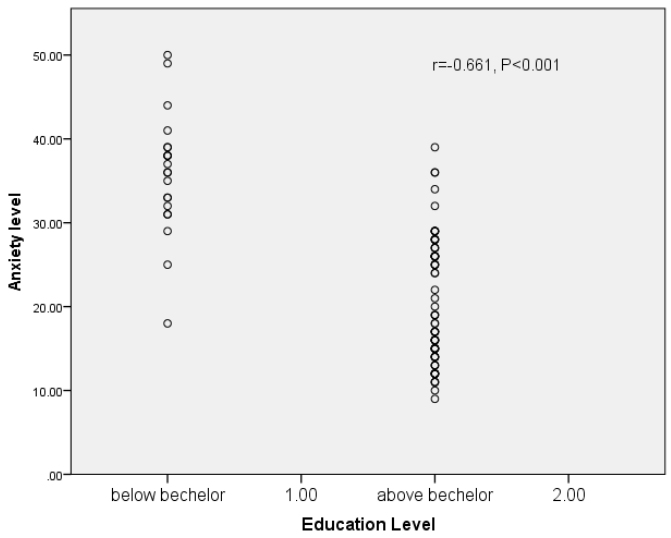

Fig 2: Comparison of anxiety level with education level

When observing the anxiety levels based on education level, group 2 exhibits notably lower anxiety compared to group 1. The data indicates a negative correlation between education levels (below and above bachelor's degree) and anxiety levels, with a correlation coefficient of r=-0.661, which is statistically significant (p<0.001).

DISCUSSION

This cross -ectional observational study was undertaken to measure the effectiveness of strategic counselling in decreasing the anxiety among the family members of patients undergoing pediatric surgery.

A similar study was conducted by Jane S. Leske,in 100 patients, compared the usual group(n=50) with the experimental group(n=50).The experimental group midway through surgery received a 5-10 minute progress report. Lower state anxiety was noted in the family members of the experimental group. It was also noted that the same group had significantly lower MAP and heart rate, suggesting benefit of intraoperative counselling in reducing anxiety among family member.[10]

The family members receiving informational report showed a significant reduction in anxiety scores. The study was conducted by Trecartin et al. on family members of patient undergoing invasive cardiac surgery procedures. The 151 family members were divided in to 3 groups, group1-standard group, group2 intraoperative informational report, group3 informational report and postoperative visits.[11]

The education level has also shown to contribute to the anxiety levels in the family members waiting for surgery to complete in our study. The family members who are not educated, have received intermediate or secondary education has shown higher anxiety in compared to the ones who have bachelor degree and master's degree. While in a similar study conducted by Luengo

et al did not show any significant difference on basis of level of education.[12]

The in-person intraoperative communication has shown to decrease anxiety level significantly in family members than those who were not communated[13]

Herd et al also suggests that clear in person communication to family members of surgical patient decreases their anxiety level while also helping in increasing the family member satisfaction. [14]

Other various studies have been conducted on different ways of communication and anxiety among the family members. Pinto R.P et al in their study concluded that information through video tape showed lower levels of anxiety among the family members in compared to those who did not receive any information.[15]

MJ Johnson et al proved that family members who received telephone calls had lesser anxiety than the family members who did not receive any information. The study suggests the efficacy of providing information to patients' families via telephone calls.[16]

A combination of preoperative video tape information and information form the supporting staff decreased the anxiety level of family members in the patient undergoing surgical intervention. They suggested that preoperative information reduced the anxiety in family members while staff family interaction help in perceiving support hence reducing anxiety scores among family members. The study concluded that anxiety levels were higher during intraoperative period than during post-operative period.[17]

A study conducted by Huang F et al. on web-based messaging service where 685 text messages where sent to 322 participants during different times (pre-operative, intraoperative and post-operative) shows reduced family anxiety and improved satisfaction. The study also points towards the efficacy of time of councelling[18]

Poudel RR et al concluded that sending regular text messages with updates on the status of ongoing surgery assists in decreasing the anxiety among family members of patients undergoing oncological surgery while in the operating room. The study was conducted on 60 pateints.[19]

The skilled perioperative nurses in a study conducted by Puopolo et al provided intraoperative progress reports to the family members waiting during the surgery time. Their role was to motivate, committed to information, giving care, being sensitive and have sense of humor. They suggests various possible barriers for intraoperative communication like time, attention, and therapeutic communication skills. They concluded that this strategy of progress report during the intraoperative period decreases the anxiety level and als£o added to the their satisfaction with hospital.[20]

In our study we conducted a strategic approach to council the family member. The information was shared in person, at beginning, at middle and at end of surgery. Similar to our study in person progress report was used by Kathol et al. The information was shared given 30 min after commencement of surgery and post-surgery. They concluded that there was significant decrease in anxiety among these group.[17] While Leske et al. used in person progress report at single–10 min counselling halfway through the surgery. Even those data had similar result as our study.[21]

Jordan et al. evaluated various surgeons' views and approaches concerning communicating with the families of surgical patients before, during, and after operations. Surgeons noted differences in their methods and objectives for communication and mentioned that they shaped their communication methods spontaneously rather than through structured training. Overall, study highlighted that the primary focus of communication during this perioperative period was alleviation of anxiety of family members.[22]

CONCLUSION

We conclude that the strategic perioperative counseling decreases the anxiety among the parents of pediatric patient undergoing surgery. We also conclude that higher education level correlate well with lower anxiety level among parents of pediatric patient undergoing surgery.

LIMITATION OF THE STUDY

The limitation of the study was length and the type of procedure, communication styles bias, adverse effect of the surgery was not considered, data was not collected during the preoperative consultation for the same sample.

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CONFLICTS OF INTEREST None

FINANCIAL DISCLOSURE None

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