

ALLEVIATING ANXIETY AMONG PARENTS OF CHILDREN UNDERGOING SURGERY: CURRENT EVIDENCE AND STRATEGIES FOR EFFECTIVE PREOPERATIVE SUPPORT

Ab. Hamid Wani¹, Madeeha Manzoor², Nikhil Arya², Gurbir Singh³

¹Assistant Professor, Department of Surgery, Government Medical College Jammu, Jammu and Kashmir, India.

²Post Graduate, Department of Surgery, Government Medical College Jammu, Jammu and Kashmir, India.

³Consultant Surgeon, Department of Surgery, Jammu and Kashmir, India.

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Corresponding Author:

Dr. Gurbir Singh,

Email: khalsagurbir2510@gmail.com

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ABSTRACT

Background: The prospect of surgery in a child is a highly stressful event for parents. Preoperative parental anxiety has been shown to influence the emotional well-being of children, increase perioperative distress, and negatively affect postoperative recovery. Effective interventions aimed at reducing parental anxiety can improve both parental and paediatric surgical outcomes. The objective is to review the causes of parental anxiety associated with paediatric surgery and evaluate evidence-based interventions that help alleviate anxiety before surgery. **Materials and Methods:** A narrative review of published literature was conducted using studies evaluating parental anxiety in paediatric surgical settings. Particular emphasis was placed on educational, behavioural, audiovisual, and family-centered interventions designed to reduce parental stress and improve perioperative experiences. **Result:** Studies consistently demonstrate that parental anxiety is highly prevalent before paediatric surgery, affecting up to 74% of parents. Educational counselling, multimedia information programs, hospital tours, play-based preparation, music therapy, and parental involvement during anesthesia induction have shown varying degrees of effectiveness in reducing anxiety. Structured preoperative education combined with psychological support appears to provide the most consistent benefits. Recent systematic reviews and meta-analyses suggest that multimedia and web-based educational interventions may be among the most effective approaches. **Conclusion:** Parental anxiety represents a significant yet modifiable factor in paediatric surgical care. Comprehensive preoperative preparation programs that incorporate education, communication, emotional support, and family-centered care can substantially reduce anxiety and improve perioperative outcomes for both children and their parents.

INTRODUCTION

Surgery is a major source of stress for children and their families. The unfamiliar hospital environment, fear of anesthesia, concerns regarding surgical outcomes, and separation from the child contribute significantly to parental anxiety. Studies have reported that approximately 74% of parents experience considerable anxiety before their child's surgery, while up to 75% of paediatric patients also exhibit preoperative anxiety.^[1] Parental anxiety is not merely an emotional response; it has important clinical implications. High levels of parental anxiety have been associated with increased anxiety in children, poorer cooperation during anesthesia induction, higher postoperative pain scores,

emergence delirium, sleep disturbances, and behavioral problems following surgery.^[1,2] Consequently, addressing parental anxiety has become an important component of paediatric perioperative care. Family-centered healthcare models recognize parents as active participants in the care process. By providing appropriate information, emotional reassurance, and opportunities for involvement, healthcare professionals can significantly reduce parental distress and improve surgical experiences.^[3]

Factors Contributing to Parental Anxiety

Several factors influence parental anxiety before paediatric surgery:

Fear of anesthesia-related complications.

Concerns regarding surgical success and postoperative outcomes.

Lack of understanding about the procedure.
Previous negative healthcare experiences.
Separation from the child during surgery.
Inadequate communication with healthcare professionals.
Uncertainty regarding postoperative recovery and pain management.^[1,4]
Parents of younger children and those undergoing major surgical procedures often report higher anxiety levels than others.^[5]

Evidence-Based Interventions to Reduce Parental Anxiety

1. Preoperative Education

Preoperative education is among the most extensively studied interventions. Educational sessions may include verbal counselling, printed booklets, videos, multimedia presentations, or interactive web-based resources.

Randomized controlled trials have demonstrated that parents who receive structured educational counselling exhibit significantly lower anxiety levels compared to those receiving routine care.^[1,5] Educational interventions improve understanding of anesthesia, surgical procedures, postoperative care, and expected recovery.

Recent network meta-analysis findings indicate that multimedia and video-assisted educational approaches may provide superior anxiety reduction compared with conventional written information alone.^[6]

2. Audiovisual and Multimedia Programs

Audiovisual interventions utilize videos, animations, virtual tours, and interactive digital platforms to familiarize parents with the perioperative process. These methods enhance comprehension and reduce uncertainty.

A systematic review found that audiovisual interventions effectively reduce preoperative anxiety by providing realistic expectations and improving parental preparedness.^[7] Multimedia tools are particularly useful when delivered before the day of surgery, allowing parents sufficient time to process information and ask questions.

3. Psychological Support and Counselling

Individual counselling sessions provide opportunities for parents to express fears and receive reassurance from healthcare professionals. Psychological support helps correct misconceptions, address specific concerns, and strengthen coping strategies.

Studies have shown that counselling interventions significantly reduce State-Trait Anxiety Inventory (STAI) scores among parents awaiting their child's surgery.^[1,5] Effective communication and empathetic interactions remain fundamental components of anxiety management.

4. Play-Based and Child-Centered Preparation

Preparation programs involving therapeutic play, role-play, medical play kits, and child-life specialists indirectly reduce parental anxiety by improving the child's comfort and cooperation. When parents observe their child becoming more relaxed and

informed, their own anxiety levels frequently decrease.^[1]

Play therapy also promotes familiarity with medical equipment and hospital environments, reducing fear of the unknown.

5. Music Therapy

Music therapy has emerged as a non-pharmacological intervention that promotes relaxation and decreases physiological stress responses. Studies suggest that music can reduce parental anxiety before surgery by lowering heart rate, blood pressure, and subjective stress levels.^[1]

Music-based interventions are inexpensive, safe, and easily integrated into preoperative waiting areas.

6. Parental Presence During Induction of Anesthesia

Allowing parents to remain with their child during induction of anesthesia has been investigated as a strategy to reduce anxiety. Although findings are mixed, some studies report improved parental satisfaction and reduced stress when parents are adequately prepared for their role during induction.^[1] The effectiveness of this approach appears dependent on parental temperament, preparation, and institutional protocols.

7. Comprehensive Family-Centered Preparation Programs

Multidisciplinary preparation programs combine education, counseling, audiovisual materials, hospital tours, and emotional support. Evidence suggests that integrated interventions are more effective than single-component approaches.^[1,6]

Such programs foster trust between families and healthcare providers while promoting realistic expectations and active participation in care.

DISCUSSION

Parental anxiety remains a common and clinically significant issue in paediatric surgical practice. Studies have consistently shown that heightened parental anxiety is associated with increased anxiety in children, poorer cooperation during anaesthesia induction, greater postoperative pain, emergence delirium, and behavioral disturbances after surgery.^[1,2,9]

The findings of the present review indicate that preoperative educational interventions are among the most effective strategies for reducing parental anxiety. Structured educational programs improve parental understanding of the surgical procedure, anaesthesia, postoperative care, and expected outcomes, thereby reducing uncertainty and fear.^[1,5] Recent evidence from a network meta-analysis further suggests that multimedia and video-based educational approaches may be superior to traditional written information alone in alleviating parental anxiety.^[6] Audiovisual interventions have gained increasing attention because they provide realistic and accessible information regarding the perioperative process. A systematic review by Chow

et al. demonstrated significant reductions in parental anxiety following audiovisual preparation programs, emphasizing the value of technology-assisted education. ⁷Psychological support and counselling are also important components of anxiety management. Direct communication with healthcare professionals allows parents to express concerns, clarify misconceptions, and develop coping mechanisms. Such interventions have been associated with significant reductions in anxiety scores and improved parental satisfaction.^[1,5] Family-centered preparation strategies, including therapeutic play, hospital tours, and involvement of child-life specialists, indirectly reduce parental anxiety by improving the child's emotional preparedness and cooperation.^[1,8] Similarly, parental presence during induction of anaesthesia may benefit selected families when appropriate preparation and support are provided, although findings remain variable across studies.^[4] The cumulative evidence suggests that multimodal interventions combining education, counselling, emotional support, and family participation are more effective than single-component approaches.^[1,6]^{1,6} Healthcare institutions should therefore consider implementing structured family-centered perioperative programs to address parental anxiety comprehensively. Overall, reducing parental anxiety not only improves the psychological well-being of parents but also contributes to better perioperative experiences and postoperative outcomes for children.^[1,2,9,10]

CONCLUSION

Parental anxiety before paediatric surgery is highly prevalent and can adversely affect both children and surgical outcomes. Evidence supports the use of structured preoperative education, multimedia information delivery, psychological counselling,

play-based preparation, music therapy, and family-centered care approaches to reduce anxiety. Comprehensive perioperative support programs should be incorporated into routine paediatric surgical practice to enhance parental confidence, reduce distress, and improve overall quality of care.

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