The Impact of Standardized Preoperative Education on Parental Dental Anxiety for Children Undergoing Elective Dental Surgery under General Anesthesia

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Introduction

Parental anxiety is common when children undergo elective dental procedures under general anesthesia (GA), particularly in outpatient settings. Elevated anxiety can affect both parent and child, potentially complicating preoperative management, anesthesia induction, and recovery. While advances in anesthesia have improved safety, emotional preparation of parents remains under addressed.

Preoperative education has been shown to reduce perioperative anxiety. Studies demonstrate that structured interventions—such as videos, brochures, and multimedia tools—significantly lower parental anxiety levels. However, most research focuses on hospital-based surgery rather than office-based pediatric dental IV general anesthesia (IVGA), where workflow and parental involvement differ.

This prospective randomized controlled trial was conducted to evaluate the effect of a standardized preoperative education on parental anxiety in children undergoing outpatient pediatric dental treatment under IV general anesthesia (IVGA) at the UCLA Pediatric Dentistry IVGA Clinic.

Objective

This study aims to evaluate a standardized preoperative educational program (brochure, Q&A session, and structured counseling) to:

1. Quantify reductions in parental anxiety using a randomized controlled design
2. Improve perioperative experience in the outpatient pediatric dental IVGA setting
3. Inform best practices for standardized preoperative education in pediatric dentistry

Methods

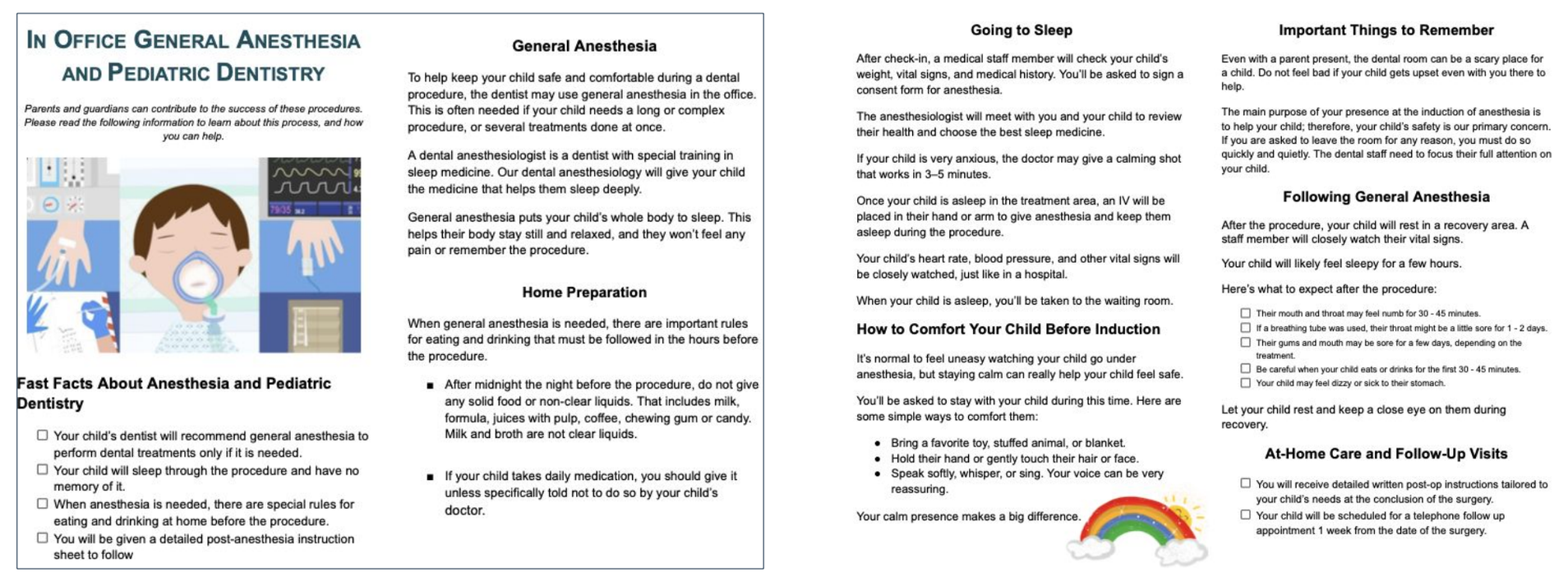
Participants:English-speaking parents of children aged 3–10 years scheduled for elective IVGA were included. Parents required at least a middle school education and internet access (*UCLA IRB # 25-0185).* Exclusion criteria included prior household exposure to IVGA/surgery and non-English speakers. Participants were contacted one week prior to surgery, screened for eligibility, consented, and randomized using stratified block randomization (child age group and parental education level). Allocation concealment was maintained with sealed opaque envelopes. Groups include Control: Routine verbal and written preoperative instructions and Intervention: Routine instructions & standardized education package (detailed IVGA brochure and structured Q&A session with the PI)

Outcome Measure:
Parental anxiety was measured using the Spielberger State Anxiety Inventory (STAI-S) at three time points:

1. Pre-appointment (via telephone or web)
2. Baseline at appointment (pre-surgery)
3. Waiting room (preoperative)
4. Recovery (postoperative)

The STAI-S is a validated 20-item questionnaire (score range 20–80), with scores ≥39–40 indicating elevated anxiety.

Brochure given to the Intervention Group



IN OFFICE GENERAL ANESTHESIA AND PEDIATRIC DENTISTRY

Parents and guardians can contribute to the success of these procedures. Please read the following information to learn about this process, and how you can help.

Fast Facts About Anesthesia and Pediatric Dentistry

- ☐ Your child's dentist will recommend general anesthesia to perform dental treatments only if it is needed.
- ☐ Your child will sleep through the procedure and have no memory of it.
- ☐ When anesthesia is needed, there are special rules for eating and drinking at home before the procedure.
- ☐ You will be given a detailed post-anesthesia instruction sheet to follow

General Anesthesia

To help keep your child safe and comfortable during a dental procedure, the dentist may use general anesthesia in the office. This is often needed if your child needs a long or complex procedure, or several treatments done at once.

A dental anesthesiologist is a dentist with special training in sleep medicine. Our dental anesthesiology will give your child the medicine that helps them sleep deeply.

General anesthesia puts your child's whole body to sleep. This helps their body stay still and relaxed, and they won't feel any pain or remember the procedure.

Home Preparation

When general anesthesia is needed, there are important rules for eating and drinking that must be followed in the hours before the procedure.

- ▪ After midnight the night before the procedure, do not give any solid food or non-clear liquids. That includes milk, formula, juices with pulp, coffee, chewing gum or candy. Milk and broth are not clear liquids.
- ▪ If your child takes daily medication, you should give it unless specifically told not to do so by your child's doctor.

Going to Sleep

After check-in, a medical staff member will check your child's weight, vital signs, and medical history. You'll be asked to sign a consent form for anesthesia.

The anesthesiologist will meet with you and your child to review their health and choose the best sleep medicine.

If your child is very anxious, the doctor may give a calming shot that works in 3–5 minutes.

Once your child is asleep in the treatment area, an IV will be placed in their hand or arm to give anesthesia and keep them asleep during the procedure.

Your child's heart rate, blood pressure, and other vital signs will be closely watched, just like in a hospital.

When your child is asleep, you'll be taken to the waiting room.

How to Comfort Your Child Before Induction

It's normal to feel uneasy watching your child go under anesthesia, but staying calm can really help your child feel safe.

You'll be asked to stay with your child during this time. Here are some simple ways to comfort them:

- Bring a favorite toy, stuffed animal, or blanket.
- Hold their hand or gently touch their hair or face.
- Speak softly, whisper, or sing. Your voice can be very reassuring.

Your calm presence makes a big difference.

Important Things to Remember

Even with a parent present, the dental room can be a scary place for a child. Do not feel bad if your child gets upset even with you there to help.

The main purpose of your presence at the induction of anesthesia is to help your child; therefore, your child's safety is our primary concern. If you are asked to leave the room for any reason, you must do so quickly and quietly. The dental staff need to focus their full attention on your child.

Following General Anesthesia

After the procedure, your child will rest in a recovery area. A staff member will closely watch their vital signs.

Your child will likely feel sleepy for a few hours.

Here's what to expect after the procedure:

- ☐ Their mouth and throat may feel numb for 30 - 45 minutes.
- ☐ If a breathing tube was used, their throat might be a little sore for 1 - 2 days.
- ☐ Their gums and mouth may be sore for a few days, depending on the treatment.
- ☐ Be careful when your child eats or drinks for the first 30 - 45 minutes.
- ☐ Your child may feel dizzy or sick to their stomach.

Let your child rest and keep a close eye on them during recovery.

At-Home Care and Follow-Up Visits

- ☐ You will receive detailed written post-op instructions tailored to your child's needs at the conclusion of the surgery.
- ☐ Your child will be scheduled for a telephone follow up appointment 1 week from the date of the surgery.

Results

Participant Characteristics: 28 parent–child dyads completed the study (16 intervention; 12 control). Groups were comparable at baseline with no significant differences in child age (3–12 years), gender distribution, parental education level, or baseline STAI-S scores, indicating successful randomization. Baseline anxiety levels were moderate in both groups and demonstrated acceptable normality for analysis. Parental Anxiety: Mean STAI-S scores were assessed at three time points: pre-appointment, baseline, preoperative waiting period, and postoperative recovery. At baseline, anxiety levels were similar between groups. During the preoperative waiting period, the intervention group demonstrated lower mean anxiety scores compared to controls, with the greatest observed reduction at this time point. Postoperatively, anxiety decreased in both groups, though the intervention group maintained lower mean scores. Within-group comparisons suggested greater reductions in anxiety over time among parents receiving standardized preoperative education, while the control group showed smaller and less consistent changes.

Preliminary Analysis: A linear mixed-effects model adjusting for baseline anxiety, child age group, and parental education indicated a directional Group × Time interaction, suggesting differential anxiety trends between groups.Due to the small sample size, findings are considered exploratory.

Conclusion:

Preliminary results suggest that standardized preoperative education may reduce parental anxiety in the outpatient pediatric dental IVGA setting. Final statistical conclusions will be determined upon completion of data collection.