

# General Anaesthesia and Pre-anaesthetic Medication for Paediatric Dental Care: A Study Evaluating Parental Attitude towards Pre-anaesthetic Medication and Quality of Life after Treatment

## Abstract

**INTRODUCTION:** The purpose of this study was to evaluate: a) Parental satisfaction with the dental care their child received under general anaesthesia; b) Perception of the impact of this care on physical and social quality of life; c) Parents attitude towards premedication.

**MATERIAL AND METHODS:** The sample included 45 children of age 2-5years (median age 50 months) who required dental care under general anaesthesia. Data was collected using a one page survey questionnaire filled by the parent at the first follow-up appointment.

**RESULTS:** Dichotomous dependent variables were developed to measure parental satisfaction, dental outcome, and social impact of treatment. There was an overwhelmingly positive impression in relation to dental outcomes (pain relief and improved masticatory efficiency). Parental acceptance for premedication was also positive.

**CONCLUSION:** It can be concluded that dental rehabilitation under GA improves both the physical and social quality of life of the preschool child and parents exhibit a positive attitude towards the preanesthetic medication.

## Key Words

Parental Attitude; general anesthesia; children; dental care; premedication

Swati Choudhary<sup>1</sup>, Sandeep Tandon<sup>2</sup>,  
Varsha Sukdev Jadhav<sup>3</sup>

<sup>1</sup>Resident, Department Of Pediatric and Preventive Dentistry, Government Dental College and Hospital, Jaipur, Rajasthan, India

<sup>2</sup>Professor & Head, Department Of Pediatric and Preventive Dentistry, Government Dental College and Hospital, Jaipur, Rajasthan, India

<sup>3</sup>Resident, Department of Periodontics and Oral Implantology, Government Dental College and Hospital, Jaipur, Rajasthan, India

## INTRODUCTION

Various oral diseases, especially early childhood caries (ECC), have a negative impact on quality of life.<sup>[1-2]</sup> A significant proportion of children having severe dental caries requires extensive and complex treatment and treating these children is a challenge for paediatric dentists. Despite the existing behaviour management and pharmacological techniques, there are cases when dental rehabilitation under GA is required to provide safe and effective dental treatment. For most parents, GA is seen as a dramatic departure from the traditional office-based approach for the child's dental treatment; however, at times GA may be

essential for the compassionate and efficient delivery of care. This is true especially for young, uncooperative children with early childhood caries. Because GA carries a risk for morbidity and mortality, this approach can be emotionally challenging for parents who choose this option. To reduce the fear and anxiety before GA and to establish a positive rapport for future dental treatment pre-anaesthetic medication is used. Little is known of parents' perceptions and satisfaction of the outcome of dental treatment under GA or the perceived impact this treatment has on the quality of life of their children as well as acceptance for pre-medication. So this study was conducted to evaluate

parental satisfaction with the dental care their child received under general anaesthesia, perception of the impact of this care on physical and social quality of life and parents' attitude towards premedication.

#### **MATERIALS AND METHODS**

The data were collected from parents or legal guardians of children treated under GA at the Government Dental College & Hospital, Jaipur. This study was limited to a total 45 healthy children age 24-60 months whose parents, on advice of paediatric dentist chose GA as the desired modality for treatment of their child. Children with medically compromising conditions such as mental retardation, autism, and verbal communication disorders were excluded. All patients were American Society of Anesthesiology (ASA) Classification I or II and children who experienced no postoperative complications. All children were sedated with midazolam orally (0.5mg/kg) prior to treatment under GA. A single-page, 12-item questionnaire were given to the parents or legal guardians at the postoperative visit scheduled 2-4 weeks following dental rehabilitation under GA. The questionnaire was approved by the Ethical & research committee of Government Dental college & hospital, Jaipur. The questions covered 3 perceptual dimensions: a) parental attitude towards pre-anaesthetic medication; b) parental satisfaction with GA; and c) parental perception of the impact of GA on the child's quality of life related to physical health and social well-being following treatment. Additional sociodemographic data such as family type was obtained from the children's parent and gardens.

#### **RESULTS**

The data collected from 45 children's parents who met all the inclusion criteria subjected to statistical analysis SPSS 14.0 version. Dichotomous dependent variables were developed to measure parental satisfaction, dental outcome, and social impact of treatment. The sociodemographic data for the study sample are illustrated in Table 1. The median age of the patient participants was 50 months (range 24-60 months). Nineteen (42.22%) of the patients were females and 26 (57.78%) were males. Twenty five (55.56%) of the patient were related to nuclear family and 20 (44.45%) were from joint family. Forty-two (93.33%) were related to ASA status I and 3(6.67%) were ASA status II.

#### **Parental Attitude towards Preanaesthetic medication**

Almost 100% parents thought that their children were relaxed before treatment under GA following premedication.

#### **Parental Satisfaction**

Parents were satisfied about the care their child received under GA. All 45 parents were satisfied with the dental treatment completed for their child in the operating room.

#### **Physical Quality of Life Measures**

Table 2 reveals that parents consistently noted improved dental outcomes after treatment. All Forty-five (100%) parents felt that their children were free of dental pain, and 40 (88.89%) reported improved eating pattern. In addition 42 (93.33%) of the parents felt their children slept better compared with before dental treatment and 25(55.56%) parents felt their child's overall health improved after treatment.

#### **Social Quality of Life Measures**

Table 3 illustrates that parental perceptions was that social dimensions were also improved. Parents reported that their children looked better 20 (44.44%), smiled more 23 (51.11%), were skipping school less than earlier 39 (86.67%), and were in general more social 20 (44.44%) following dental treatment under GA.

#### **DISCUSSION**

Patient satisfaction will play a progressively more significant role in the health care arena as the patient sophistication, awareness, and access to information is increased. For those dental practitioners who care for children, parental satisfaction will likely become more important over time. Obtaining parental satisfaction will involve matching children's oral health needs with the appropriate mode of treatment. Fear of painful or unpleasant procedures and separation from parents may result in lasting and untoward psychological consequences in children who undergo dental treatment. Therefore treatment under GA is a well-accepted means of treatment to reduce these consequences. This modality carries a calculable risk for morbidity and mortality so parents' perceptions and satisfaction at the outcome of dental treatment under GA or the perceived impact this treatment has on the quality of life of their children should be known. Our first goal was to evaluate the acceptance of preanaesthetic medication given before GA to reduce anxiety and facilitate easy separation of the children. Preanaesthetic medication in children is an important adjunct to help alleviate the stress and fear of surgery as well

**Table 1**

Age	50 months (Mean)	24-60 months
Sex	Female 19 (42.22%)	Male 26 (57.78%)
Family Type	Nuclear 25 (55.56%)	Joint 20 (44.45%)
ASA Status	42 (93.33%)	3 (6.67%)

**Table 2**

Question asked	Yes (%)	No (%)	Don't Know (%)
Pain Free(Dental)	45(100%)	-	-
Eating pattern improvement	40 (88.89%)	3(6.67%)	2(4.44%)
Sleeping pattern improvement	42 (93.33%)	1(2.22%)	2(4.44%)
Better overall health	25(55.56%)	5(11.11%)	15(33.33%)

**Table 3**

Questions asked	Yes (%)	No (%)	Don't Know (%)
Looks better	20 (44.44%)	15 (33.33%)	10 (22.22%)
Smiles more	23 (51.11%)	10 (22.22%)	12 (26.67%)
Skipped less school	39 (86.67%)	2 (4.44%)	4 (8.89%)
More social	20 (44.44%)	12 (26.67%)	13 (28.89%)

as to ease the child parent separation and promote a smooth induction of anaesthesia.<sup>[3]</sup> Midazolam is the most commonly used drug for this purpose. Premedication with midazolam has shown to be more effective than parental presence or placebo in reducing anxiety and improving compliance at induction of anaesthesia.<sup>[4]</sup> Full mouth rehabilitation under GA for uncooperative children has been reported to be well-accepted by parents and is perceived to have a positive social impact on their child.<sup>[5-7]</sup> The assessment of the quality of life of children often includes surveying parents, although special questionnaires for children in a certain age group have already been developed.<sup>[8,9]</sup> In the present survey we also used a single page questionnaire for the parents. The second goal of our study was to determine whether parents were satisfied with their children's dental treatment under GA. All parents surveyed responded with satisfaction to the care their children received, confirming data by Acs and colleagues<sup>[10]</sup> who reported a similarly favourable response from parents. Based on these collective findings, it appears that the use of GA for dental care for preschool aged children is a well-accepted means of treatment in the eyes of most parents. The final goal of our study was to determine the parents' perception of the impact of GA dental treatment on their children's physical health and social health. Accordingly, we found that the strongest predictor of the physical quality of life in our study was the parent's view that his or her child was dental pain-free and slept properly following treatment.

However, it was interesting to note that although 100% of parents felt their child to be pain-free following GA care, only 55% felt the child's overall health had improved following treatment. This inconsistency is similar to the findings by Acs and colleagues.<sup>[10]</sup> They noted that although 84% of parents reported their children to be dental pain-free, only 65% of parents said their child's overall health was better following treatment. In contrast, 82% of the sample population of parents of medically compromised children in the Acs and colleagues<sup>[10]</sup> study reported an improvement in their child's overall health. Low and colleagues reported less than 50% of the parents in their study felt their children were experiencing pain prior to GA treatment; however, all felt their children were pain-free following treatment.<sup>[11]</sup> This is because children are not able to express their discomfort due to their age.

### CONCLUSION

It can be concluded that dental rehabilitation under GA improves both the physical and social quality of life of the preschool child and parents exhibit a positive attitude towards the preanesthetic medication

### REFERENCES

1. Acs G, Ng MW. Early childhood caries and well-being. *Pediatr Dent.* 2002;24:288.
2. Filstrup S, Briskie D, da Fonseca M, Lawrence L, Wandera A, Inglehart M. Early childhood caries and quality of life: child and parent perspectives. *Pediatr Dent.* 2003;25:431-9.

3. Naqash I, Nisa W, Zargar J, Farooqi A. Midazolam Premedication in Children: Comparison of Nasal and Sublingual Routes. *J Anaesth Clin Pharmacol*. 2004;20(2):141-45.
4. Vivian MY, Theresa WH, Michael GI, Man KY. A Comparison of intranasal dexmedetomidine and oral midazolam for premedication in pediatric anesthesia: A double-blinded randomized controlled trial. *Anesth Analg*. 2008;106:1715-21.
5. Fung DE, Cooper DJ, Barnard KM, Smith PB. Pain reported by children after dental extractions under general anaesthesia: a pilot study. *International Journal of Paediatric Dentistry*. 1993;3:23-8.
6. Mason C, Holt RD, Rule DC. The changing pattern of day-care treatment for children in a London dental teaching hospital. *British Dental Journal*. 1995;179:136-140.
7. White H, Lee JY, Vann WF, Jr. Parental evaluation of quality of life measures following pediatric dental treatment using general anesthesia. *Anesthesia Progress*. 2003;50:105-110.
8. Jokovic A, Locker D, Stephens M, Kenny D, Tompson B, Guyatt G. Validity and reliability of a questionnaire for measuring child oral-health-related quality of life. *J Dent Res*. 2002;81:459-63.
9. Jokovic A, Locker D, Tompson B, Guyatt G. Questionnaire for measuring oral health-related quality of life in eight- to ten-year-old children. *Pediatr Dent*. 2004;26:512-8.
10. Acs G, Pretzer S, Foley M, Ng MW. Perceived outcomes and parental satisfaction following dental rehabilitation under general anesthesia. *Pediatr Dent*. 2001;23:419-423.
11. Low W, Tan S, Schwartz S. The effect of severe caries on the quality of life in young children. *Pediatr Dent*. 1999;21:325-26.