

# Questionnaire of parental perception of general anesthesia in pediatric dentistry

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## ABSTRACT

**Aim:** The aim of this study is to assess the parental perception on general anesthesia (GA) in pediatric dentistry. **Objective:** The objective of this study is to assess the parental awareness through a self-awareness questionnaire. **Materials and Methods:** The parental perception on GA for children with mixed dentition was assessed through a self-administered questionnaire which was distributed among 100 parents whose children were as old as 1–5 years. **Results:** After the analyses of the questionnaire, it was seen that more than half of the respondents were aware of GA for children during dental treatment. The respondents were equally divided when questioned on the safety aspect of GA. Majority of parents preferred conscious sedation over GA. **Conclusion:** Although most of the parents would agree for their child to undergo GA, almost half the group of parents would prefer other methods or means, and this is due to their fear and lack of knowledge on GA.

**KEY WORDS:** Conscious sedation, General anaesthesia, Parental opinion

## INTRODUCTION

Most children can undergo dental treatment in the regular in-office setting. Children who are uncooperative due to fear and dental anxiety may refuse treatment, and such children are managed using behavioral management techniques.<sup>[1,2]</sup> However, a few cannot cope or are failed to be managed in their conscious state and hence require other treatment modalities and cannot be treated using routine management methods.<sup>[2,3]</sup> For such children, treatment can be done using general anesthesia (GA). It is the most efficient and economical method of treatment.

Patients under GA are in a controlled state of unconsciousness, but the protective reflexes are lost. A certain population who absolutely cannot tolerate dental treatment can only be treated under GA. Pediatric patients who are categorized generally to

require treatment under GA are those of very young age or those suffering physical, mental, cognitive, or emotional immaturity or disability or those with extreme anxiety who need extensive rehabilitation.<sup>[3,4]</sup> The majority of the candidates requiring this mode of treatment are children who suffer from one prevalent health problem, early childhood caries (ECC). ECC is a term that comprises all dental caries occurring in the primary dentition of young children.<sup>[4-6]</sup> It can also be referred as labial caries, caries of incisors, rampant caries, nursing bottle caries, and baby bottle tooth decay. It is defined as the existence of 1 or more decayed (non-cavitated or cavitated lesions), missing (due to caries), or filled surfaces in any primary tooth.<sup>[5,7,8]</sup>

There are several techniques for GA to be induced, such as mask induction, rectal induction, oral route or nasal transmucosal agents, and intramuscular or intravenous injections. Inhalational anesthesia may be induced by halogenated volatile anesthetics due to fear of injections in children. The inhalational agents that can be used are nitrous oxide, isoflurane, desflurane, and sevoflurane. The pleasant odor, low blood/gas partition coefficient, and less respiratory problems

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make sevoflurane the choice of induction agent used commonly. It causes less episodes of hypotension than halothane. For anesthesia maintenance, isoflurane, desflurane, and sevoflurane are suitable.<sup>[9-11]</sup>

The aim of the study is to assess the parental opinion on the use of GA in their children.

## MATERIALS AND METHODS

This study was conducted to assess parental perception on GA for children with mixed dentition among 100 parents. All the parents had children who were as old as 1–5 years. The subjects were from the patients who had reported to Saveetha Dental College, Chennai. The data were collected after having received the consent of the participant to participate in the study using a self-administered questionnaire which was designed after reviewing the recent literature and similar questionnaires. The statistical data were formulated, and the percentage of the corresponding data was derived.

The survey consisted of 9 questions or statements with multiple choice type responses. Respondents were given no information or knowledge before administration of the survey other than being told to answer the questions to the best of their knowledge and to give one response per question. All the questionnaires were anonymous, and the collected data were kept confidential and not used except for this study purpose.

## RESULTS

A total of 100 questionnaires were collected and analyzed [Table 1]. More than half of the respondents were aware of GA for children during dental treatment. The respondents were equally divided when questioned on the safety aspect of GA.

When parents were asked to choose their preference, either GA or conscious sedation, the majority of parents (72%) showed more interest toward conscious sedation, and this may be due to the idea of parents that the post-operative complications of GA are more (63%).

Regardless of the knowledge or opinion of the parents, they preferred to stay close to the child during treatment.

A large majority of parents reported that they agreed that GA is better than restraint or wrapping of the child (67%).

There was a common agreement from the parents that GA is necessary for patients with mental/physical disabilities.

## DISCUSSION

Dental treatment performed under GA is a very efficient treatment modality because it only takes a single appointment and requires little or no cooperation on the part of the patient.<sup>[12-14]</sup> It is, nevertheless, considered the last resort because GA may pose risks for the patient's overall health.<sup>[15,16]</sup> Different dental treatments for multiple caries such as amalgam or composite restorations, pulp treatments, stainless steel crowns (SSCs), and extractions can be offered under a single session of GA.<sup>[17,18]</sup>

Parents polled in this study had a reasonable knowledge of some of the purposes and the procedure of GA. From the participating parents, most have preferred the use of conscious sedation over GA with the perception of possible complication occurring due to the use of GA. The findings in this study also state that majority of the parents have agreed for the use of GA procedure for their child as they perceive it as a safe procedure, but many parents still feel that it is unsafe and opt not to do it for their child.

According to Ramazani,<sup>[19]</sup> the perception of parents with regard to GA has changed over time in favor of it. In recent times, parental opinion toward acceptability of GA has increased. They perceive it as a form of treatment method which affects children's quality of life in a positive manner. The findings in this study highlight that passive restraint through wrap or papoose board is an unpopular method of advanced behavior guidance with parents. Another trend confirmed by this investigation was support for increased parental presence in the operatory. Around 75% of parents expressed a desire to stay with their child during the procedure. Shroff *et al.*<sup>[20]</sup> focused on parent's desire to remain in the operatory room during the treatment procedure for their children. It was found that the two main motivations for staying with the child were (1)

**Table 1: Evaluation of the answers to the questionnaire**

Awareness of GA for children during dental treatment	Yes: 61%	No: 22%	Not sure: 17%
GA safe for children	Yes: 45%	No: 42%	Not sure: 13%
Will they allow it for their child?	Yes: 41%	No: 38%	Not sure: 21%
Preference of conscious sedation over GA	Yes: 72%	No: 20%	Not sure: 8%
Possibility of complications after GA	Yes: 63%	No: 18%	Not sure: 19%
Effect of cost on choosing GA	Yes: 58%	No: 36%	Not sure: 6%
GA is better than wrapping the child to prevent wriggling	Yes: 67%	No: 28%	Not sure: 5%
Necessity of staying close to the child during GA treatment	Yes: 75%	No: 16%	Not sure: 9%
GA necessary for children with physical/mental disabilities	Yes: 82%	No: 14%	Not sure: 4%

GA: General anesthesia

a belief that the child would be more comfortable with the parent staying in the operatory and (2) an overall concern for the child's well-being. However, on the contrary, most practitioners prefer the absence of parents to concentrate solely on the child's status and treatment needs. Dentists have reported various reasons for excluding parents from the operatory, such as the fact that parental presence adds time to the appointment and can disrupt the child's behavior.<sup>[20]</sup>

## CONCLUSION

From this study, we conclude that, though most of the parents would agree for their child to undergo GA, almost half the group of parents would prefer other methods or means, and this is due to their fear and lack of knowledge on GA. Educating the parents on the basic information of these important procedures should be done to prevent any complication during the necessary situations.

## REFERENCES

1. Pooja JC, Selvarasu K. Behavioural management techniques in paediatric clinic. *Int J Pharm Biol Sci* 2016;6:10-5.
2. Forsyth AR, Seminario AL, Scott J, Berg J, Ivanova I, Lee H, *et al.* General anesthesia time for pediatric dental cases. *Pediatr Dent* 2012;34:129-35.
3. Adewale L. Anaesthesia for paediatric dentistry. *Contin Educ Anaesth Crit Care Pain* 2012;12:288-94.
4. Filstrup SL, Briskie D, da Fonseca M, Lawrence L, Wandera A, Inglehart MR, *et al.* Early childhood caries and quality of life: Child and parent perspectives. *Pediatr Dent* 2003;25:431-40.
5. White J, Wells M, Arheart KL, Donaldson M, Woods MA. A questionnaire of parental perceptions of conscious sedation in pediatric dentistry. *Pediatr Dent* 2016;38:116-21.
6. Cantekin K, Dogan S, Aydinbelge M, Canpolat DG, Yildirim MD, Avci S. Analysis of comprehensive dental rehabilitation under general anesthesia at a dental hospital in turkey. *J Pediatr Dent* 2014;2:49.
7. Lee PY, Chou MY, Chen YL, Chen LP, Wang CJ, Huang WH, *et al.* Comprehensive dental treatment under general anesthesia in healthy and disabled children. *Chang Gung Med J* 2009;32:636-42.
8. Vellingiri S, Gurunathan D. Assessment of parent's preference to general or local anesthesia for children undergoing dental treatment. *World J Dent* 2015;6:154-60.
9. Lima AR, Medeiros M, Costa LR. Mothers' perceptions about pediatric dental sedation as an alternative to dental general anesthesia. *RGO Rev Gaúcha Odontol* 2015;63:153-60.
10. Choudhary S, Tandon S, Jadhav VS. 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. *Int J Prev Clin Dent Res* 2014;1:47-50.
11. Bücher K, Rothmaier K, Hickel R, Heinrich-Weltzien R, Kühnisch J. The need for repeated dental care under general anaesthesia in children. *Eur J Paediatr Dent* 2016;17:129-35.
12. Tate AR, Ng MW, Needleman HL, Acs G. Failure rates of restorative procedures following dental rehabilitation under general anesthesia. *Pediatr Dent* 2002;24:69-71.
13. Tahmassebi JF, Achol LT, Fayle SA. Analysis of dental care of children receiving comprehensive care under general anaesthesia at a teaching hospital in England. *Eur Arch Paediatr Dent* 2014;15:353-60.
14. Silva CC, Lavado C, Areias C, Mourão J, Andrade DD. Conscious sedation vs general anesthesia in pediatric dentistry a review. *Med Exp* 2015;2:15-8.
15. Orellana CC. A Review of Pediatric General Anesthesia Combination Cases in the Special Health Care Needs Population (Doctoral Dissertation, The Ohio State University); 2016.
16. Jankauskienė B, Virtanen JJ, Kubilius R, Narbutaitė J. Treatment under dental general anesthesia among children younger than 6 years in Lithuania. *Medicina* 2013;49:403-8.
17. Roberts JF, Curzon ME, Koch G, Martens LC. Behaviour management techniques in paediatric dentistry. *Eur Arch Paediatr Dent* 2010;11:166-74.
18. Kumar S, Saran R, Pentapati K. General anaesthesia in paediatric dentistry an institutional experience. *Glob J Med Res* 2014;14:43-6.
19. Ramazani N. Different aspects of general anesthesia in pediatric dentistry: A review. *Iran J Pediatr* 2016;26:e2613.
20. Shroff S, Hughes C, Mobley C. Attitudes and preferences of parents about being present in the dental operatory. *Pediatr Dent* 2015;37:51-5.

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