

PREVALENCE OF CHILDREN BETWEEN AGE OF 3 - 5 YEARS UNDERGOING DENTAL TREATMENT UNDER GENERAL ANAESTHESIA- A RETROSPECTIVE STUDY

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Abstract

Background: General anaesthesia puts your child's entire body to sleep and is required for certain tests and surgeries in order to completely relax his or her reflexes. A thorough awareness of the physiologic, pharmacologic, and psychological distinctions between children and adults is critical when delivering general anaesthetic medicines to children. The aim of the study is to know the prevalence of children between 3 - 5 years undergoing general anaesthesia.

Methodology: It is a retrospective study. Data was collected from the records of the children between 3-5 of age who were treated under general anesthesia. The data is collected from DIAS(Dental Information Archiving Software) of Saveetha dental hospital. The obtained data was tabulated and statistical analysis was done using SPSS Software.

Result: 73.91 % of the children treated under General anesthesia were between 3-5 years of age and Females were found to be more commonly treated under General anesthesia. A statistically significant correlation was noted between the age and gender of the participants. (P=0.00)

Conclusion: From the results of the present study, it is seen that 73.91 % of the children between 3-5 years are commonly treated under general anesthesia where females were commonly treated at younger age and with increase in age males were found to be more commonly treated under General anesthesia.

Keywords: children, general anesthesia,dental treatment,innovative technique

Introduction

Some children and teenagers require dental treatment under general anaesthetic due to medical or behavioural concerns. Children who are unable to participate owing to a lack of psychological or emotional maturity and/or mental, physical, or medical handicap; children for whom LA is ineffective due to anatomical variations, acute infection and allergy; children who are severely uncooperative, afraid, apprehensive, or uncommunicative; and children who re-

quire major surgical operations or immediate, thorough oral/dental treatment must be treated under general anaesthesia.

Treatment under GA has the benefit of completing all required treatments in one appointment with reduced stress to the patient, parent, and dentist. All dentists should provide- painless treatment when treating children. Controlling pain is an important aspect of behaviour modification. If pain is not managed, the dentist's ability to perform at a high level would be harmed. Dental treatment aided by general anaesthesia enables dentists to benefit from better treatment conditions and offer better care. For years, it has been recognized that dental illnesses, particularly early childhood caries (ECC), have a severe influence on quality of life. Dentists often find it difficult to treat a young kid with severe dental caries, especially when extensive and sophisticated therapy is required.

Dentists often have little interaction with parents after dental recovery under GA, making it difficult to assess how well children heal and whether they experience any postoperative complications. Dentists who administer this operation must know how to inform parents of what to expect immediately after the treatment and in the days that follow. Any effort must be taken to keep the patient as healthy as possible while still reducing morbidity. The majority of patients undergo dental services in a traditional office setting under normal circumstances. However, there are certain circumstances that necessitate the use of a certain therapeutic procedure. The main aim of this study was to find out the prevalence of children between 3 - 5 years of age undergoing dental treatment in general anaesthesia.

Materials and Methods

The retrospective study was conducted in a Private Dental College, Chennai, India. Ethical approval was obtained from the Institutional review board prior to the start of the study. Data was collected from the records of the children between 3-5 years of age who were treated under general anesthesia between September 2020 to February 2021. A total of 92 children treated under general anesthesia were included in the study.

Data collected with following parameters like age and gender. The collected data was analyzed using SPSS statistical software. Data analysis done using chi-square test. P-value was set as 0.05 as the level of significance.

Result:

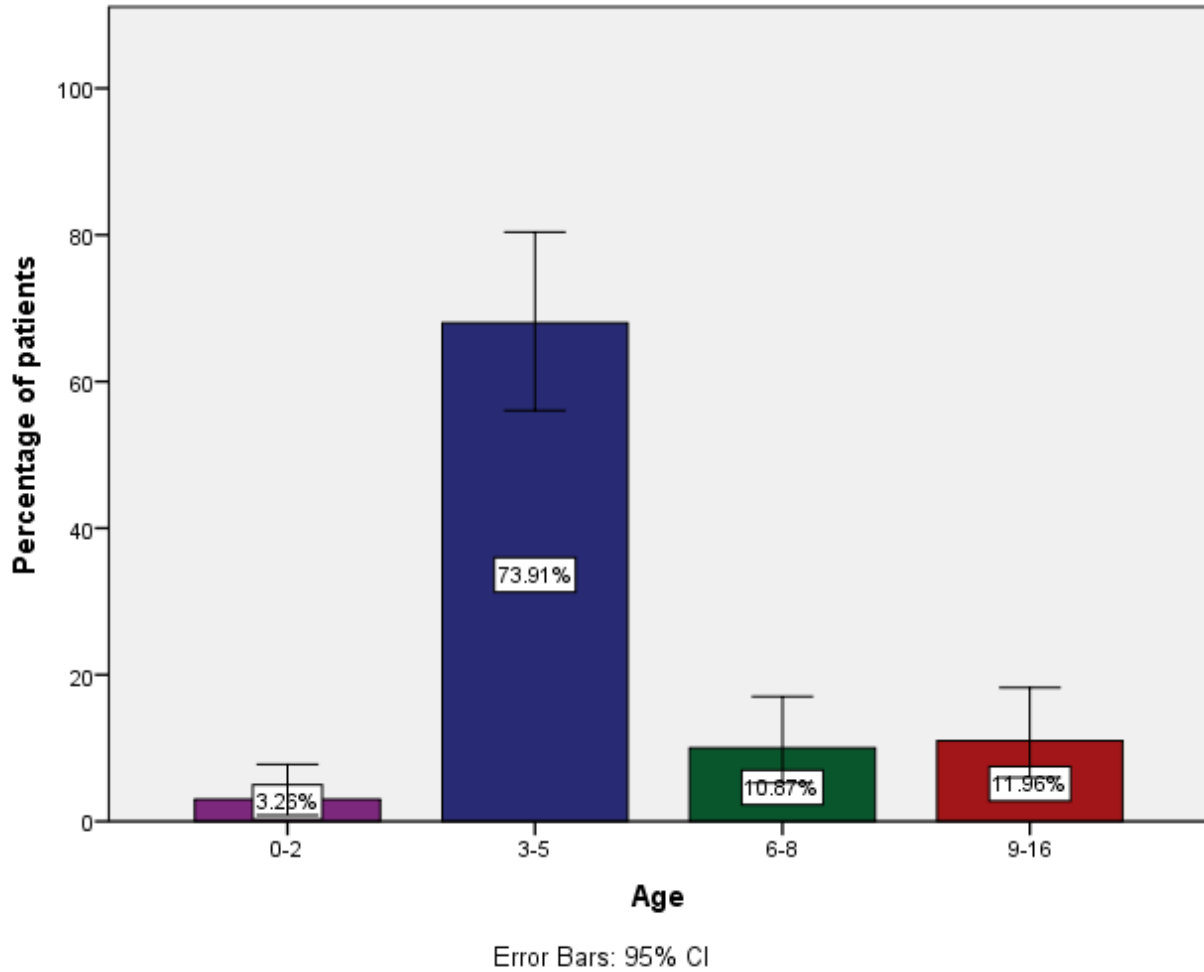


Figure 1: The bar graph represents the age distribution of children treated under general anesthesia. Where violet colour represents the age group of (0-2) years, blue colour represents the age group of (3-5) years, green colour represents the age group of (6-8) years, red colour represents the age group of (9-12) years. In which 0- 2 years of age group (3.25 %) and 3-5 years of age group (73.91 %) and 6-8 years of age group (10.87 %) and 9-6 age group (11.96%).

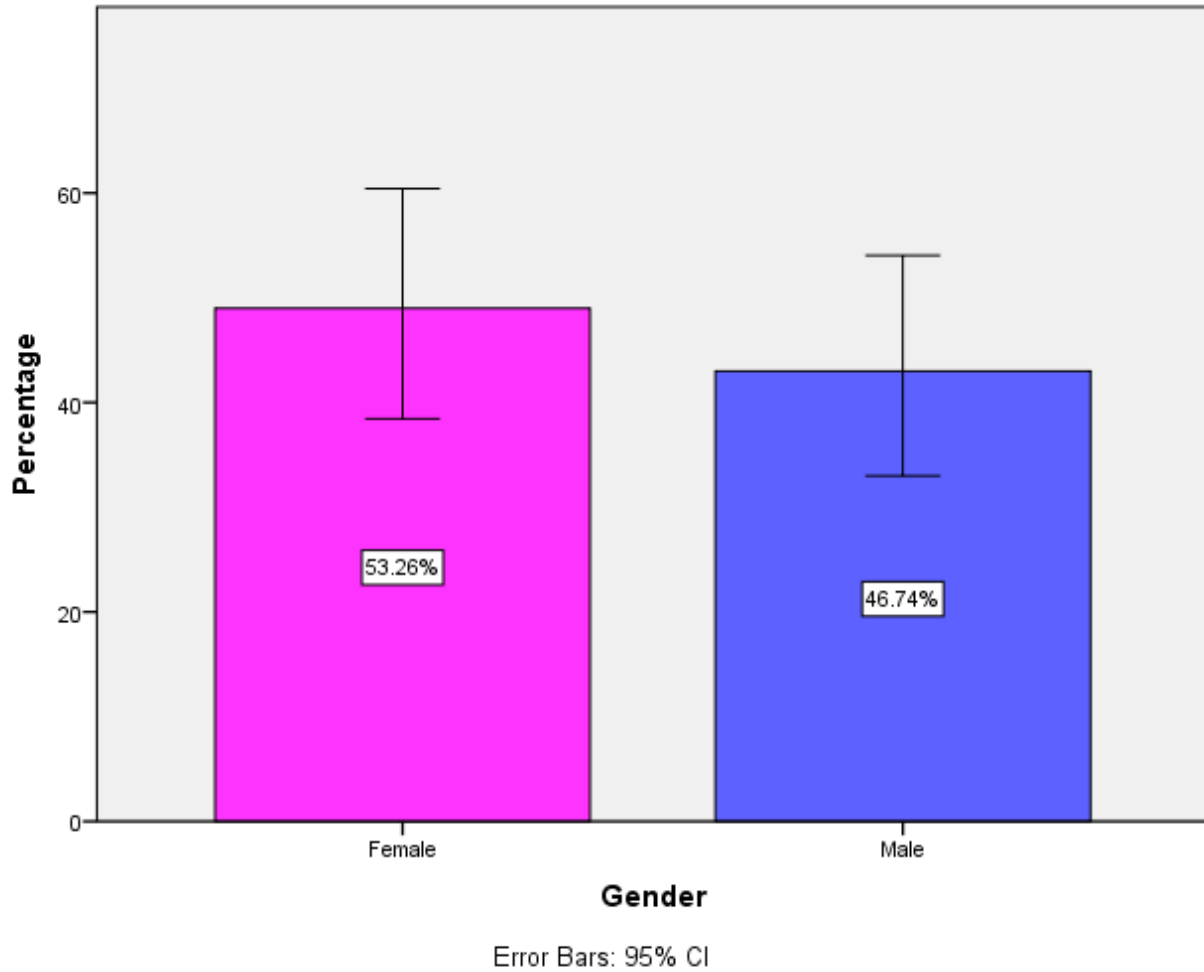


FIGURE 2 : The bar graph represents the gender of the children between 3-5 years treated under general anesthesia for dental treatment, where pink color represents the female and blue colour represents the male. In which female is (53.26%) more treated under general anaesthesia when compared with male (46.74%).(chi square test ;p value = 0.00 ; p<0.05 ; hence significant)

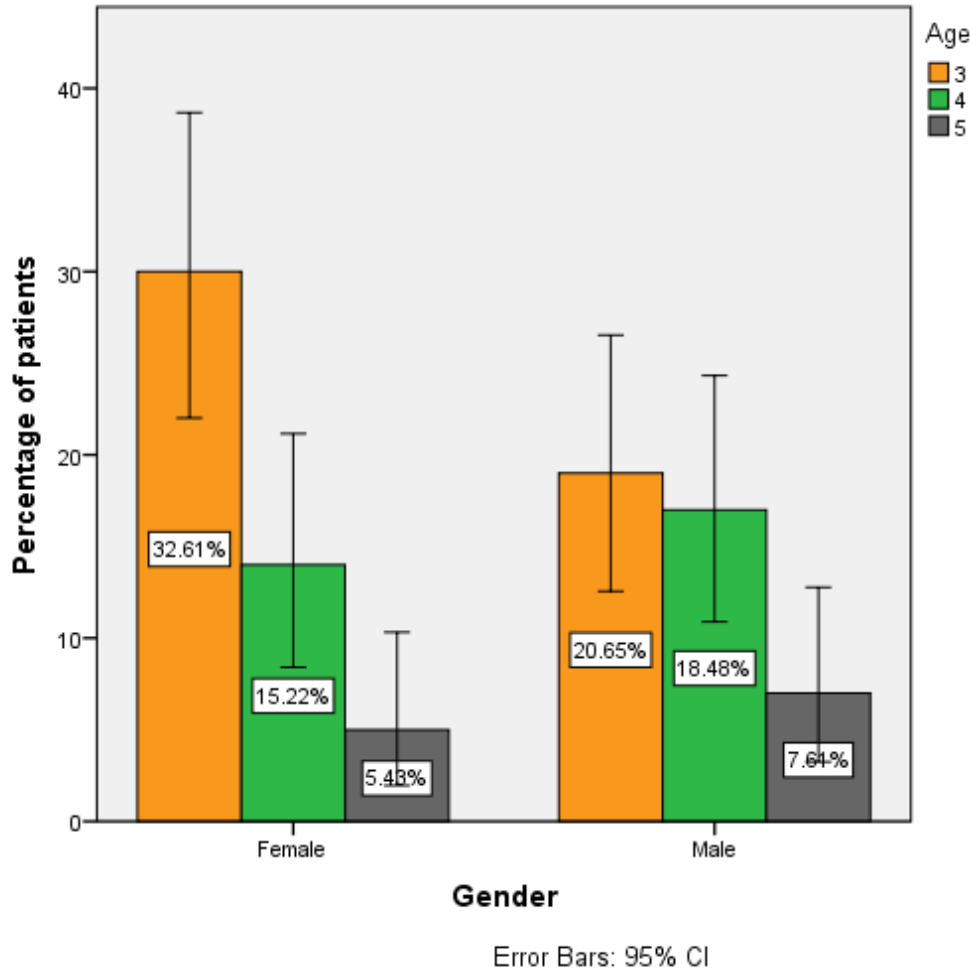


Figure 3: The bar graph represents the correlation of age and gender of the children treated under general anesthesia. Where yellow represents the age group of 3, green represents the age group of 4 and grey color represents the age group of 5. Children of 3 years (32.61%) in male (20.65%) in females is most common for both male and female treated under general anesthesia when compared with 4years (15.22%) in male (18.48%) in female and 5years (5.48%) in male and (7.61%) in female.(chi square test ;p value = 0.00 ; p<0.05 ; hence significant)

Discussion

In the present study it was seen that 73.91% of the children treated under General anesthesia were between 3-5 years of age. In a study done by Kawaai et al; it was seen that children between 1-5 years of age were most commonly treated under general anesthesia (Kawaai, Tanaka and Yamazaki, 2005). In contrast to these results in a study by Andreeva et al; it was seen that children between 5-8 years of age were treated under general anesthesia (Andreeva, 2018).

In the present study it was seen that females were most commonly treated under general anesthesia (figure 2). Similarly in another study, Akpınar et al; it was seen that females were treated with general anesthesia as they were high sensitive to dental treatment (Akpınar, 2019).In contradiction to these results a study by Choi et al; showed that males were treated under general anesthesia as male children are more mischievous handling patient will be difficult without sedation (Choi and Doh, 2021).

In the present study it was seen that at 3 years females were more commonly treated under General anesthesia and as the age increases males were commonly treated under General anesthesia and this association was statistically significant (figure 3). Other studies also showed that males between the ages of 5 and 6 years were commonly treated under General anesthesia (Almaz, Oba and Sonmez, 2019). In another study by Nasr et al; it was seen that females of 2-3 years are commonly treated under general anesthesia (Nasr and Moussa, 2020).

Patients with complicated medical conditions, such as cleft lip, syndromic children, cleft palate and palate patients, were treated under general anaesthesia, avoiding additional stress for the patients and their families, by hospital environment they treated in good way. (Gaynor and Thomson, 2012). Cleft lip and palate was the most common congenital abnormality of the head and neck region.

Under GA are more likely to have good prognosis than clinical setup. This helps in saving time and ease for dentists to do procedures. Every dental problem is done at a stretch and finishing the treatment of the patient. The main disadvantage of this method is that over dose of general anaesthesia might occur. Regaining consciousness requires time.

Other studies, however, revealed that few patients were with under general anaesthesia because of their dental fear or because they were too young to cooperate but otherwise healthy, and the main background variables that may cause dental fear include social factors, personality factors, and previous negative experiences. (Lee *et al.*, 2011).

The limitation of this study was less sample size, and it was based on a single hospital setting. Increasing sample size in various hospital settings helps in clear view of patients treated under general anaesthesia. Our team has extensive knowledge and research experience that has translate into high quality publications (Jeevanandan and Thomas, 2018; Subramanyam *et al.*, 2018; Gothandam *et al.*, 2019; Ramadurai *et al.*, 2019; Ramakrishnan, Dhanalakshmi and Subramanian, 2019; Su *et al.*, 2019; Mathew *et al.*, 2020; Princeton, Santhakumar and Prathap, 2020; Sekar *et al.*, 2020; Aldhuwayhi *et al.*, 2021; Saravanakumar *et al.*, 2021; Velusamy *et al.*, 2021; Wei *et al.*, 2021)(Bai *et al.*, 2019; Duraisamy *et al.*, 2019; Sekar, 2019; Sekar *et al.*, 2019; Sekar, Nallaswamy and Lakshmanan, 2020; Parimelazhagan *et al.*, 2021; Syed, Gnanakkan and Pitchiah, 2021)

Conclusion

From the results of the present study, it is seen that 73.91 % of the children between 3-5 years are commonly treated under general anesthesia where females were commonly treated at younger age and with increase in age males were found to be more commonly treated under General anesthesia.

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Conflicts of Interest

The authors declare that there were no conflicts of interest in the present study.

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