



# EVALUATION OF PARENTAL SATISFACTION AND CHILD'S ACCEPTANCE OF STAINLESS-STEEL CROWNS AND FIGARO CROWNS IN PRIMARY MOLARS - A RETROSPECTIVE CLINICAL STUDY

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**Abstract:** Introduction: With the society becoming more conscious on aesthetics and parents being more influential in choosing the crown for children, evaluating the parental satisfaction becomes a crucial element to be considered. **Aim:** The present study aims at evaluating the parental satisfaction and child's acceptance of SSCs and Figaro crowns in primary molars. **Materials and method:** 50 children who received SSCs and Figaro crowns in the primary molars were identified for participation in the study. The children were clinically examined and the questionnaire for parent satisfaction was administered. Data was collected and subjected to statistical analysis. **Results:** The parental satisfaction with the colour of Figaro crowns was superior and was statistically significant ( $p=0.01$ ). None of the parents were dissatisfied with the shape of the crown in both the crowns. All the parents in Figaro crown group were either satisfied or very satisfied with the size of the crown. With reference to the children's overall rating score, 100% of the children were satisfied with Figaro crowns whereas only 36% of the children were satisfied with SSCs ( $p=0.01$ ). **Conclusion:** Figaro crowns has a significant acceptance from both the parents and the children.

**Keywords:** Children, Figaro crowns, Primary molars, Satisfaction, Stainless steel crowns.

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## INTRODUCTION

Stainless steel crowns (SSC) serves as a benchmark in treating deciduous teeth with multi-surface dental caries. Though the crowns are clinically successful, the parents and the children still feel unsatisfied owing to its metallic appearance (Randall., 2002; Seale., 2001; Innes et al., 2015). A survey conducted in 2009, reported that 87% of the parents were concerned about the aesthetics for restoration of

primary molars (Zimmerman et al., 2009). A study conducted among the children regarding the preference for tooth coloured composite and silver coloured amalgam restoration showed more preference towards tooth coloured restorations (Fishman et al., 2006). This optimal aesthetic demands from the parents and the children led to the hunt for more aesthetic and affordable crowns in paediatric dental practice and left us with various options.

One among them is the Figaro crowns- a preformed fibre-glass crowns composed of fibre mesh sheets of aramid carbon or quartz embedded in resin, introduced in 2018. These crowns have been declared to be metal and bisphenol A free. Also it has an added advantage of being autoclavable. The manufacturers insists that these crowns are based on flex fit technology and have increased strength and cosmetics (El-Habashy., 2020).

A systematic review evaluating the clinical success rates of various preformed aesthetic primary crowns tagged Figaro crowns as a promising and cost effective replacement to SSC (Subramanian et al., 2021). The paper that studied the gingival health around Figaro crowns revealed that there was a mild inflammation noticed at around 6 months but was not statistically significant when compared with Preformed metal crowns (El-Habashy., 2020). Also this paper announced that 100% of the parents preferred Figaro crowns over SSC on the first visit and 3 month follow up visit, however the preference rate declined to 40% at 6 months follow up (El-Habashy., 2020). Another article that evaluated the retention of Figaro crowns also deduced Figaro crowns to have a justifiable retention rate and as a potent replacement to preformed aesthetic crowns in primary mo-

lars (Subramanian et al., 2021). Though the author alleged that Figaro crowns can satisfy the aesthetic urge of the patients and parents, there is no evidence existing in the literature that proves the above presumption. Hence, the present study aims at evaluating the parental satisfaction and child's acceptance of SSCs and Figaro crowns in primary molars.

## MATERIALS AND METHOD

The institutional review board of Saveetha University approved the present retrospective study. A total of 50 children who received SSCs and Figaro crowns in the primary molars in the Department of Pediatric and Preventive Dentistry were identified and recalled for participation in the study.

The children were clinically examined and the questionnaire for parent satisfaction was administered. The questionnaire collected data on the parents satisfaction with regards to the colour, shape and size of the SSCs and Figaro crowns. The parental response was recorded with a Five point Likert scale, where score 1 meant very dissatisfied, score 2 equals to dissatisfied, score 3 is neutral, score 4 & 5 equals to be satisfied and very satisfied respectively. The children's acceptance of the crown was recorded in a simplified version as just highly satisfied, neutral and strongly dissatisfied. Informed consent was obtained from the parents prior to their enrolment in the study.

Data collected were entered in Microsoft excel spreadsheet and analysed using SPSS software (IBM SPSS Statistics, Version 20.0, Armonk, NY: IBM Corp.). Descriptive statistics were used for data summarisation and presentation. Shapiro-wilk's test was used to determine the normality of the data distribution. Data was non-normally distributed and

hence Mann Whitney non parametric test was used to find the difference between the groups with respect to age. Since the data with regards to colour, shape, size and the overall rating was categorical, Chi square test was used.

## RESULTS

The mean age of the children, who participated in the study is depicted in Table 1. The comparison of the ages shows that there was an equal distribution of the participants between the groups. Out of 50 children, 54% of them were girls and the remaining 46% were boys (Table 2).

The crowns were compared based on the colour, shape and size. With regards to the colour, about 60% of the parents were very satisfied and 40% of the parents were satisfied with the Figaro crowns whereas only 36% of the parents were satisfied with Stainless steel crowns. The parental satisfaction with Figaro crowns was superior and was statistically significant (Table 3).

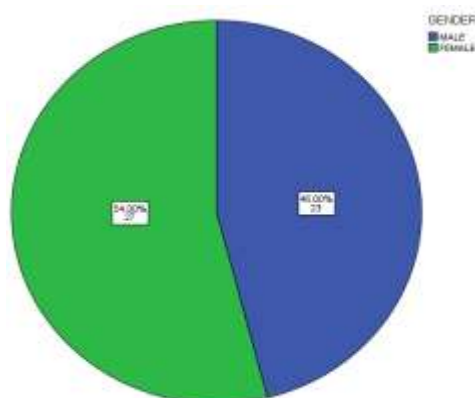
Regarding the shape of the crown, none of the parents were dissatisfied with both the crowns, however 68% of the parents were very satisfied with Figaro crowns and 60% of the parents had a neutral feeling towards SSC and this difference was also statistically significant (Table 4).

With respect to the size of the crown, all the parents in Figaro crown group were either satisfied or very satisfied but 16% of the parents in SSC group were dissatisfied and the other 44% of the parents had neutral response with statistically significant difference (Table 5). With reference to the children's overall rating score, 100% of the children were satisfied with Figaro crowns whereas only 36% of the children were satisfied with SSCs (Table 6).

**Table 1.** Distribution of study subjects based on Age

GROUPS	N	Mean	Std. Deviation	P value
STAINLESS STEEL CROWN	25	5.12	1.01	0.19
AESTHETIC CROWN	25	5.52	1.08	

**Table 2.** Distribution of study subjects based on Gender



**Table 3.** Parents satisfaction score with respect to colour of the crowns

Groups	Very dissatisfied n(%)	Dissatisfied n(%)	Neutral n(%)	Satisfied n(%)	Very satisfied n(%)	Total N(%)	Chi-square test	P value
Stainless steel crown	1(4)	3(12)	12(48)	9(36)	0(0)	25(100)	31.05	0.01**
Figaro crown	0(0)	0(0)	0(0)	10(40)	15(60)	25(100)		

**Table 4.** Parents satisfaction score with respect to shape of the crowns

Groups	Very dis-satisfied n(%)	Dissatisfied n(%)	Neutral n(%)	Satisfied n(%)	Very satisfied n(%)	Total N(%)	Chi-square test	P value
Stainless steel crown	0(0)	0(0)	15(60)	10(40)	0(0)	25(100)	32.22	0.01**
Figaro crown	0(0)	0(0)	0(0)	8(32)	17(68)	25(100)		

**Table 5.** Parents satisfaction score with respect to size of the crowns

Groups	Very dis-satisfied n(%)	Dissatisfied n(%)	Neutral n(%)	Satisfied n(%)	Very satisfied n(%)	Total N(%)	Chi-square test	P value
Stainless steel crown	0(0)	4(16)	11(44)	10(40)	0(0)	25(100)	26.66	0.01**
Figaro crown	0(0)	0(0)	0(0)	14(56)	11(44)	25(100)		

**Table 6.** Children's overall satisfaction score

Groups	Satisfied n(%)	Neutral n(%)	Strongly satisfied n(%)	Dissatisfied n(%)	Total N(%)	Chi-square test	P value
Stainless steel crown	9(36)	16(64)	0(0)		25(100)	23.52	0.01**
Figaro crown	25(100)	0(0)	0(0)		25(100)		

## DISCUSSION

With increased parental behest for aesthetic crowns, assessing the parental satisfaction plays a significant role in determining the eventual success of the crown in practice. Figaro crowns are authenticated to be successful in terms of retention rates, reduced micro-leakage and maintenance of good periodontal health (Subramanian et al., 2021; Subramanian et al., 2021). Hence, the present study was aimed at assessing the parental and children's satisfaction with the use of Figaro crowns.

In the present study the parental satisfaction score was assessed based on the colour, size and shape of the crowns. With regards to the colour, 60% of the parents were very satisfied and 40% of the parents were satisfied with colour of the Figaro crowns whereas only 36% of the parents were satisfied with SSCs. The results are almost similar to another study done comparing SSCs with Zirconia crowns, where only 40% of the parents were satisfied with the colour of SSCs (Mathew et al., 2020). However a study done by Talekhar et al comparing Figaro with Zirconia crowns - two available options for aesthetic preformed crowns demonstrated that the parental satisfaction was greater with zirconia crowns and the major reasons for parental dissatisfaction with Figaro crowns were staining of the crowns at 18 month follow up (Talekar et al., 2021). With regards to the shape and size of the Figaro crowns none of the parents were dissatisfied, whereas a majority of the parents showed neutral response to SSC.

Moving to the children's opinion on Figaro and Stainless steel crowns, the results of the present study shows that 100% of the children were satisfied with Figaro crowns whereas only 36% of the children were satisfied with SSCs. A major limitation of the present study is that it is a retrospective study that was conducted on the children for whom the crowns were placed before 6 months. Probably, with a long term follow up with the patients, the pit falls of Figaro crowns can be identified. Also, the sample size of the present study is small.

## CONCLUSION

Based on the results of the present study, it can be concluded that Figaro crowns has a significant acceptance from both parents and children. Hence, can be considered for paediatric practice.

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