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Children's preference of Posterior Restorative material by Visual method.

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Abstract

This study evaluated children's preference for posterior restorations. After viewing color laminated photographs of amalgam, glass ionomer cement, composite and colored compomer- blue and pink. 150 children aged between 5-12 years-old responded to this survey. The influence of age and gender were assessed and statistically analyzed. Tooth colored restorations were preferred the most and amalgam the least. Early interest in pink colored compomers was seen in young males.

Keywords: Amalgam, Compomers, Composites, Glass Ionomer Cement.

Introduction

Currently, patients have a more noteworthy mindfulness of oral health wellbeing and are much more cognizant approximately esthetics and its social impact.[1] With the increase in demand, newer esthetic techniques and better materials are been formulated along with advancement in technology. Commonly used restorative material in paediatric dentistry include Glass ionomer cement, polyacrylic acid modified composites (compomers) and resin-modified glass ionomer cements. In the current decade, a decline in the use of amalgam restorative material in paediatric dentistry with an increasing preference for white colored restorations has been reported.[2,3,4,5]

In the 1980's, orthodontists began offering their patients, especially children, custom colorful orthodontic appliances and ligature ties. [6] this was the beginning, where Dentistry tried to please child's selection and desires. Subsequently, orthodontists saw an increase in patient acceptance and compliance.[7]

Considering this phenomenon, two companies then introduced colored compomer as a restorative material of

primary teeth (Twinky Star, Voco, Germany and Magicfil™, Zenith/DMG, Englewood, N.J.) [8] Tooth colored restorations reduces the amount of tooth structure required to be removed which increases the strength of the remaining tooth structure. Tooth colored restorations reduces the amount of tooth structure required to be removed which increases the strength of the remaining tooth structure. Tooth colored restorations reduces the amount of tooth structure required to be removed which increases the strength of the remaining tooth structure Tooth colored restorations diminishes the need of tooth structure required to be evacuated which increments the quality of the remaining tooth structure.[9]

The value of seeking children's opin- ions about their treatment experience and outcome is gaining increasing momentum in health care. The value of seeking children's opinions about their treatment experience and outcome is gaining increasing momentum in health care.[10] There are several studies done in the past to survey pedodontists' selection of restorative materials for kids. These studies concluded a tendency to opt for tooth colored restoration. There are limited studies those account for children's selection of restorative material. The results of this study and its nature are very important in today's consumer driven society where the influence of patient demands and esthetics are rising.[11] The comes about of this consider and its nature are very crucial in today's consumer driven society where the impact of patient requests and esthetics are rising. The aim of the present study was to explore children's preferences by focusing on visual selection of different restorative materials for posterior restorations.

Materials And Methods

After parental consent, obtained by reading an explanatory Institutional Review Board approved research letter, children (5 years-old and older) in the waiting room area of Department of Pediatric and Preventive Dentistry, Vokkalighara Sangha Dental college and Hospital, Bangalore, Karnataka were individually approached by the principal investigator.

Absent from conceivable parental impact, they were inquired to reply a number of questions. The preliminary questions were related to demographics like age, gender, number of dental visits done in a year and if they had or not had a restorative filling placed in their teeth.

After that, four laminated colored pictures of different types of posterior restorations (an amalgam, a Glass ionomer cement restoration, a composite restoration, and colored compomer sealants– blue and pink) were shown to the child in a random order. The child was asked to point to the restoration they "liked the most" and the one they "liked the least". Lastly, they were asked to point to the restoration they would like to have in their mouth if a "filling" was necessary.

Results

One hundred fifty children were randomly interviewed and equally divided into two age groups, 5 to 8 (Group 1) and 9 to 12 (Group 2). The mean age for Group 1 was years old and the mean age for Group 2 was years old. Table 1 shows further demographic breakdown.

Age

Figure 1 shows the children's preferences. Although younger children liked more colored restorations than the older group, both groups chose tooth colored restpration (GIC and Composite) as their preferred restoration of choice. Amalgam was more popular in the younger group. These differences were statistically significant ($P<0.05$).

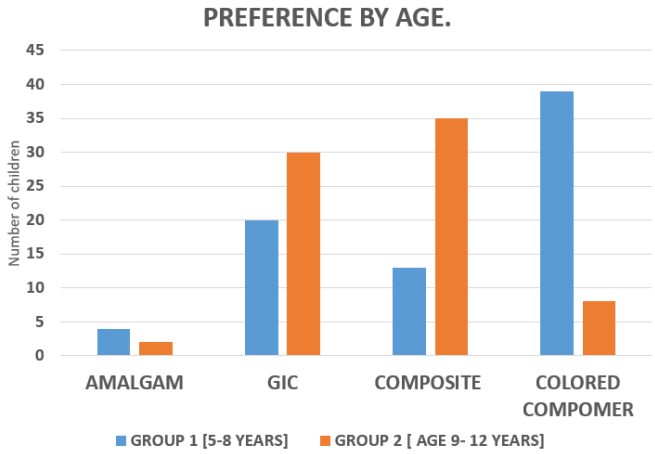

Figure 1

As to the relationship between age and the type of restoration a child least prefers, group 1 selected colored compomer (52%) after GIC (27%).

For group 2, composites (46%) were followed by GIC (40 %). Amalgam was the fewest selected by both age groups.

If a restoration was necessary, overall children selected GIC as the preferred "filling" (33%) followed by composite and colored compomer (30% each).

Both the age groups wanted Amalgam least in their mouth (4.3%). However, amongst the 9 to 12 year-olds, amalgam and colored compomer were in the bottom. (2.6% and 10% respectively).

Gender

Analysis of the distribution of restorative preferences by gender revealed a significant (P=0.03) higher preference for tooth colored restorations(GIC and composite) by females (%). Figure 2, in fact, shows no females choose amalgam. Although there was significance amongst males also, colored compomer was visually preferred the most, and amalgam least. Males also choose stainless GIC and composite but slightly less than females.

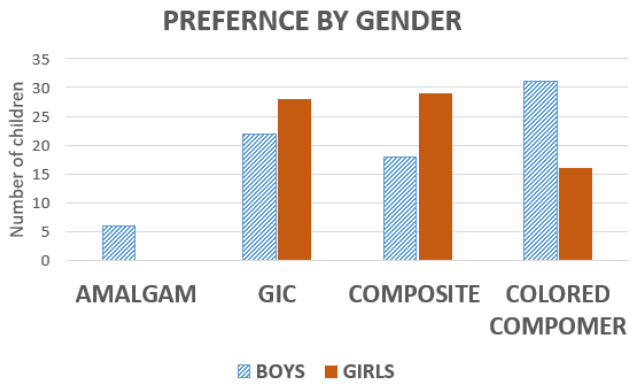

Figure 2

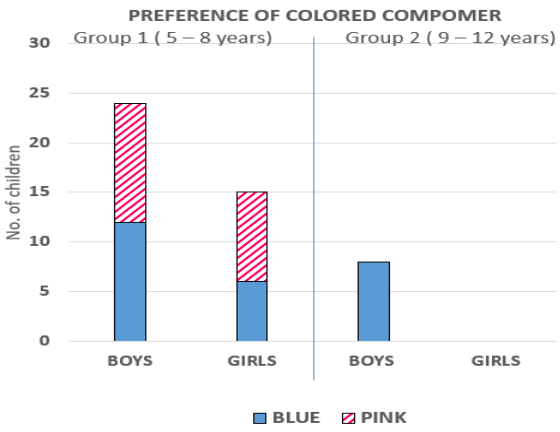

Figure 3

Among children choosing colored restoration- 50 % of boys chose pink colored compomer while the other half chose blue. Figure 3. Colored compomer was very much liked by the younger group. (5- 8 years old). There were zero Girls in the elder choosing colored compomer, be it pink or blue. However blue colored compomer was chosen by 8 boys in the elder group.

Discussion

This study expands upon the research of Peretz and Ram[1] by questioning children treated in a University based practice as compared to a private practice population. In addition, children in this study had 4 choices of amalgam, GIC, composite and colored compomers as opposed to amalgam and resin composites only.

Both age groups chose tooth colored restoration ie GIC/Composite as their preferred restoration. This is consistent with Peretz and Ram findings.1 In addition, this finding is also in-sync with the parents preference for "white" teeth. [12, 13] This result likely indicates a cause and effect relationship with pediatric dentist's preferences to use resin composite as opposed to other available restorative materials.[8] Not all geographic locations, however, prefer to use resin-based materials in restorations. For instance, pediatric dentists in California primarily covet amalgam. These dentists do not completely forgo resin composites in restorations, and will use resin-based materials citing to "patient preferences" (86%).[14]

In this study, both age groups rarely chose amalgam as a preferred restorative material. The results of the study done by Peretz and Ram showed similar results pertaining to the 7-12-year olds. In our study we hag given more options to the visually select a restoration. It included Amalgam, GIC, composite and colored compomer – pink and blue. Both colored compomers and amalgam are more visible than the tooth colored restoration. The reason being color composition does not blend in with the coloring of one's tooth. Furthermore, color compomer might have greater visibility than amalgam. If Peretz and Ram [1] properly concluded that the younger age group preferred amalgam due to its visibility, the results of this study would likely show a preference for tooth colored restorations followed by colored compomer restorations.

In our study, the children in Group 1 (5-8 year) preferred colored compomers(blue and pink) more than Group 2 (9-12- year). Again, the desire to show off their novel restorations to their cohorts may explain why the younger children chose colored compomers more often than their counterpart.8 The older children, however, may have been driven away from treatment they perceive as nonconforming or unpopular due to increased body self-awareness and peer pressures to assimilate.[15] This result contrasts the study of Croll et al, who found 7-11year olds the greatest supporters of the colored filling concept.6 probably along with the time, the preference of restoration chosen is changing. A finding by Shulman et al is another interesting contradiction to this current study. Younger children in that study were significantly more critical of tooth esthetics than older children, albeit in regards to anterior teeth. [12]

The only significant difference between genders was that females chose tooth colored restoration over other restorative materials at a greater percentage than males chose colored compomer, both blue and pink colors over the tooth colored restorative materials. This outcome is in sync with the results of Peretz and Ram's study, confirming a popular hypothesis and recent finding by Shulman and colleagues that girls are more critical about tooth esthetics than boys. [1,12] Both boys and girls seldom listed amalgam as their preferred restorative material. Peretz and Ram noted a similar outcome when children chose between amalgam and resin composite.[1] The children least preferred the "silver" filling finished last even with the additional choices of color compomer and stainless steel crowns. [1]

Some limitations, to mention in this study includes, the sample size. 150 respondents may be insufficient to represent the general population.

Conclusions

1. Children preferred tooth colored restoration (GIC and composite) the most regardless of age or gender.
2. Early interest in Pink colored compomer was seen in children who were young and male, breaking the general

stereotype of color association with gender, thereby setting a new trend.

3. Amalgam was the least chosen restorative material irrespective of the age group.

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