

Perceptions of pediatric patients and guardians about prosthetic appliances

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Forty patients that received prosthetic appliances as part of dental treatment were interviewed about satisfaction with the apparatus. The opinions of the guardians were also considered. The majority of children had complained about missing teeth, but even a greater percentage expressed satisfaction during wear of the prosthetic appliance. Among the guardians, only one of them expressed dissatisfaction with the appliance design. Rehabilitation plan should be discussed with children and guardians considering their perceptions and adequate indications for each case.

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INTRODUCTION

The premature loss of deciduous teeth due to trauma or severe dental caries, can lead to functional, occlusal and aesthetic alterations. Besides, some children can develop psychological problems that may interfere with their personality and social behavior. Many techniques, such as removable or fixed prosthesis, have been used in Pediatric Dentistry in order to minimize or avoid injuries caused by tooth loss. Waggoner¹ reported that parental concern about aesthetics is quite frequent after tooth loss, but it is also of particular importance to adolescents² and should be considered even in preschoolers.³

Although the satisfaction of children and guardians after placement of aesthetic appliances is a very important consideration, few studies have dealt with this subject. Waggoner and Kupietzky³ described improvements in social relationships after prostho-

dontic therapy with esthetic space maintainers in school-age pediatric patients. Barcelos and Souza⁴ verified that among Brazilian Pediatric Dentistry professors, 13% considered all kinds of prosthetic appliances satisfactory for children. However, the authors emphasized that these results represented opinions of clinicians instead of opinions of children. For this reason, this study evaluated the perception by children, adolescents and guardians about appliances used for teeth replacement.

MATERIALS AND METHODS

This research took place in a Pediatric Dental Clinic for post-graduate students of a public Dental School in Rio de Janeiro (Brazil). Forty clinical records belonging to patients that received prosthetic appliances as part of dental treatment, containing artificial or natural teeth, were selected from a total of 1036 patients treated between 1995 and 2000. In the first phase, the clinical records were analyzed for tooth loss etiology, appliance type, installation date, length of time that the appliances had been worn and durability or need for repairs.

After this, a structured questionnaire based on the use of the appliance was applied by phone or personal contact in 19 patients and guardians. It was not possible to interview the entire sample as some patients had moved or simply had not followed the proposed treatment. The patients and guardians gave consent to participate in the survey.

Data were analyzed by Epi-Info 6.04c statistical software using Fisher test at a significance level of 5%. Some findings were also described in order to reinforce particular aspects of the results.

RESULTS

Among the studied clinical records, it was verified that the age at which prosthetic appliances were first pro-

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vided ranged from 3 to 11 years (mean age 5.5 (2.3), with preponderance of male patients (65.0%). Dental caries (52.7%) was the main cause of tooth absences followed by trauma (36.8%) and congenitally missing teeth (10.5%).

The types of prosthetic appliances are showed in Figure 1. The mean length of time that a subject had been wearing a prosthetic appliance by the time of the survey was 9.0 (7.1 months with a range of 2 to 30 months. Among the reasons mentioned to justify the discontinuance in wear of the appliance were: eruption of permanent successor (31.6%) was the most reported, followed by damage by the appliance (31.5%), decision by the patient to not wear the appliance (15.8%) and finally due to loss of the appliance (5.3%).

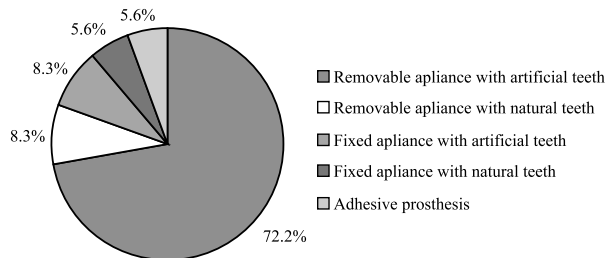


Figure 1. Types of prosthetic appliances used for replacement of missing teeth (n=40). Rio de Janeiro, Brazil, 2000.

Among the selected clinical records, 20 described follow-up treatment. Need for repair of the prosthetic appliances accounted for 25.0% of these records with a mean value of 1.6 (± 0.9) repairs per appliance. The same percentage of clinical records showed need for prosthetic appliance replacement presenting a mean number of 1.4 ± 0.5 replacements.

The majority of children (57.9%) had complained about missing teeth, but even a greater percentage (78.9%) expressed satisfaction, while wearing the prosthetic appliance. Although complaints had been more frequent among children showing missing anterior teeth, the relationship between the site of tooth absence and dissatisfaction by the child with their appearance before prosthetic appliance placement showed no statistically significant difference (Fisher's exact test; p=0.68). The same relationship was observed regarding satisfaction with prosthetic appliances by children and the region of the missing teeth (Fisher's exact test; p=0.39) as shown in Figure 2.

At least 20.0% of the patients showed deleterious oral habits such as pacifier or finger sucking, and all of them stopped the habits after they commenced wearing the prosthetic appliance. Among the interviewed guardians, only one of them (5.3%) expressed dissatisfaction with the prosthetic appliance designed for the child.

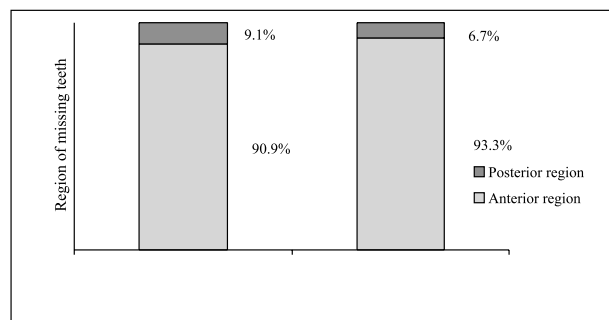


Figure 2. Relationship between the site of missing teeth and esthetic perceptions of the children (n=19). Rio de Janeiro, Brazil, 2000.

Although the majority of patients that had lost teeth by trauma were more satisfied with the prosthetic appliance, this difference was not statistical significant (Fisher's exact test; p=0.58) as shown in Figure 3.

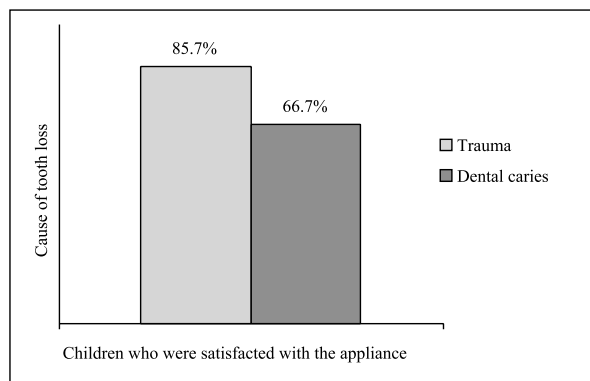


Figure 3. Appliance acceptability among children according to tooth loss type (n=19). Rio de Janeiro, Brazil, 2000.

DISCUSSION

Preservation or restoration of deciduous teeth is, undoubtedly, part of the primary attention for children, either considering psychological or esthetic aspects and other functions as chewing, swallowing and phonetics, which can lead to an ideal development of dental arches. For this reason, the premature loss of deciduous teeth can cause functional problems and also modify orofacial morphology as it favors deleterious oral habits. Moreover, probable emotional problems may arise and interfere in with sociability by the children. Therefore, pediatric dentists should use all the available means to rehabilitate pediatric patients bringing back self-esteem.

Although Waggoner and Kupietzky³ stated that children under 5 years old were seldom affected socially by tooth loss, they also admit that children, who regularly attend a daycare or preschool programs may become more aware of image and be affected by appearance. In the present study it was verified that younger children were able to wear and to like prosthetic appliances, emphasizing that the worry about early functional and

esthetic rehabilitation is quite important. It is worthy to describe the case of a 3 year-old boy, who had had two upper central incisors exarticulated after trauma. A palatal arch was made using his two own incisors. After trying out the appliance, the patient looked at a mirror and expressed a genuine satisfaction. He even asked the professional not to remove it, even knowing that it would just be cleaned and returned to his mouth to be cemented definitely.

Van Wass⁵ published a study where patients that showed positive attitudes towards functional aspects of appliances had become more satisfied with them. Among the interviewed children that took part in this study, a little more than a half had complained about teeth absences, however, a greater number of children had become satisfied with the prosthetic appliances that had replaced teeth. This fact reveals even though children had not shown complete perception of missing teeth, the children expressed satisfaction with the replacement.

Jonkman *et al.*⁶ related that although adult patients had experienced some discomfort during the first year of wearing full-mouth dentures, they were satisfied with the appliance despite the type. A high degree of satisfaction of patients wearing adhesive prosthesis, despite defects, was also observed by Creugers and de Kanter.⁷ In this survey, all the patients liked the prosthetic appliances provided, regardless type. The same attitude of approval was verified by Kotsiomiti *et al.*⁸ as noted in the evaluation of the opinion of children about removable prosthetic treatment.

After provision of appliances, 100.0% of children presenting deleterious oral habits had discontinued them. Studies considering prosthetic appliances as contributors to oral habits discontinuance were not found in the surveyed literature, although Kisling and Høffding⁹ pointed out the importance of these appliances in the prevention of oral habits establishment.

Rodd and Atkin¹⁰ verified that children considered removable prosthesis comfortable and good for chewing. Nevertheless, the ones who had been wearing prosthesis for a long time had more complaints about friends teasing them than the others, who had a shorter time of prosthesis wear. Among the interviewed children, one immediately agreed with the withdrawal of the appliance proposed by the dentist after verifying that it was the right moment to do it. The child related that his friends of the same age were changing their teeth, i.e. tooth absence was an usual feature at that age.

The need of repair or replacement of appliances was present in many. Kotsiomiti *et al.*⁸ stated that despite the good acceptability of the appliances, it is necessary to make little adaptations according to dentition development. Barcelos and Souza⁴ verified that Pediatric Dentistry professors in Brazil believed that acrylic removable appliances were the ones that most needed repairs, either due to breakage of acrylic or clasps, or due to the ease of

loss. Among the interviewed children in this survey, the majority has worn this type of appliance (Figure 1).

Consideration by children and guardians should be respected during rehabilitation treatment plan.¹⁰ However, in the literature surveyed, evaluations of perceptions of guardians, was not found. Among the interviewed guardians only one was dissatisfied with the type of appliance and that was because it was removable. The guardian believed that the child would only be able to wear a fixed appliance. For this reason, it is worthy to remind professionals of the need to clarify treatment plan to guardians regarding the indications of each appliance, because in some cases the idealize appliance may not be the most adequate.

During the evaluation of satisfaction of adult patients with partial removable prosthesis, Jepson *et al.*¹¹ stated that among those that did not wear the appliances regularly, the majority did not present absences of anterior teeth. In the present study, considering the relationship between the region of tooth losses and satisfaction of children, it was noticed that the majority that were satisfied, presented missing teeth in the anterior region (Figure 2). The causes of tooth loss were also related to satisfaction with the appliance because among the children that liked it, most of them had lost teeth by trauma (Figure 3).

The findings of this study showed that prosthetic appliances are very important to the oral and social rehabilitation of children, because many of them worry about missing teeth, and the great majority of them and the guardians became satisfied with the appliances. Many guardians also demonstrated satisfaction with the type of appliance. Rehabilitation plan should be discussed with children and guardians considering the perceptions and adequate indications for each case.

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