QUALITY OF LIFE IN PEDIATRIC PATIENTS AFTER PROVIDING REMOVABLE ACRYLIC PARTIAL DENTURE

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ABSTRACT

The study was conducted to observe quality of life in pediatric patients provided with acrylic removable partial denture visiting Hamdard University Dental Hospital, Karachi. It was a descriptive type of study. The study was carried out in the Department of Prosthodontics, Hamdard University Dental Hospital, Karachi from January 2012 to December 2013. Non probability purposive sampling technique was used. Total 30 patients visited to Prosthodontics Department of Hamdard University Dental Hospital, Karachi for provision of prosthesis were included in this study. Age range varied from 03-14 years, while sixteen were boys and fourteen were girls. Four of them were already denture wearer. Questionnaire based on OHIP-14 was used to evaluate quality of life in these patients. After collection of data, results were tabulated on SPSS. All patients were provided with acrylic removable partial dentures. Regular follow up was maintained and all patients were satisfied with the performance of their prosthesis. Acrylic removable prosthesis can be very effective for oral rehabilitation of pediatric patients when fixed prosthesis is not feasible due to multiple factors.

Key Words: Removable acrylic partial denture, esthetics, mastication, quality of life.

INTRODUCTION

In children mostly loss of teeth is due to trauma or caries while some patients can have any systemic disease associated with early loss of teeth, also there are certain patients in which teeth have been missing due to congenital reason as well.¹

Missing teeth in early age can lead to multiple problems like difficulty in chewing, problems in speech and compromise in aesthetics especially in cases where anterior teeth are not present. In patients where teeth are missing congenitally, then in such patients there is severe loss of alveolar bone as well which results in thin lips, depressed facial appearance, prominent nose and chin with reduced lower facial height.²

Replacement of missing teeth in young age group often require multidisciplinary approach, some times it is better to consult psychiatrist initially for better prognosis of treatment by providing counseling and motivation to patients and their parents as well.³

There are numerous factors which can affect the treatment plan and while fabricating dental prosthesis these factors like number of teeth to be replaced, condition of adjacent teeth, patient motivation, social and medical factors should be considered.⁴

Removable partial dentures are easy to fabricate, requires less time, low cost, no invasive preparations on abutment teeth, easy to insert and to remove by the patient himself.⁵ On the other hand if prosthesis is not properly fabricated then there will be further damage to underlying tissues leading to periodontitis.
and caries in abutment teeth. Strength of acrylic partial denture is also a major problem and due to less impact strength, there are chances of prosthesis fracture.  

Different designs of acrylic partial denture are available, these designs are: spoon denture, bifid spoon denture, modified spoon denture. Each design has its own advantages and disadvantages and efforts should be made to select most suitable design considering above mentioned factors.  

Utilization of different impression techniques, selection of appropriate clasps, proper extension of dentures and achievement of harmonious occlusion are the key factors to make an adequate acrylic partial denture.  

Acrylic dentures should be tissue friendly, restoring aesthetics by incorporation of appropriate denture flanges and should utilize all anatomical and physiological factors available to achieve better mechanical properties like support, retention and stability.  

The WHO defines quality of life as ‘the individual’s perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns.’ 

There are various domains to determine quality of life. Various questionnaires like OHIP-14, OHIP-Edent, Geriatric Oral Health Assessment were used to evaluate quality of life in these patients, questionnaire was used on first visit and six month after provision of acrylic partial denture. SPSS software was used to analyze data, Wilcoxon Signed Ranks Test was applied and results were obtained. Probability level of \( P \leq 0.05 \) was considered statistically significant.  

Inclusion Criteria: Young patients with age range from 04-14 years  

Exclusion Criteria: Patient less than 04 years of age, mentally retarded patients.  

RESULTS  

In this study, removable acrylic partial dentures were fabricated in thirty patients. Lower dentures were made for 09 patients while for fifteen patients upper dentures were made. Both upper and lower dentures were fabricated for six patients. All patients were satisfied with their prosthesis, five patients need some adjustment in their dentures which was provided accordingly in subsequent follow up visits. All patients showed marked improvement in various aspects of their quality of life and comfort.
### TEST STATISTICS

<table>
<thead>
<tr>
<th>Condition</th>
<th>ASYMP. SIG. (2-TAILED)</th>
<th>SIGNIFICANCE LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trouble pronouncing words after - trouble pronouncing words before</td>
<td>.005</td>
<td>.05</td>
</tr>
<tr>
<td>Taste worse after - taste worse before</td>
<td>.003</td>
<td>.05</td>
</tr>
<tr>
<td>Painful aching after - painful aching before</td>
<td>.028</td>
<td>.05</td>
</tr>
<tr>
<td>Uncomfortable to eat after - uncomfortable to eat before</td>
<td>.001</td>
<td>.05</td>
</tr>
<tr>
<td>Self conscious after - self conscious before</td>
<td>.002</td>
<td>.05</td>
</tr>
<tr>
<td>Tense after - tense before</td>
<td>.346</td>
<td>.05</td>
</tr>
<tr>
<td>Diet unsatisfactory after - diet unsatisfactory before</td>
<td>.020</td>
<td>.05</td>
</tr>
<tr>
<td>Interrupt meal after - interrupt meal before</td>
<td>.000</td>
<td>.05</td>
</tr>
<tr>
<td>Difficult to relax after - difficult to relax before</td>
<td>.005</td>
<td>.05</td>
</tr>
<tr>
<td>Been embarrassed after - been embarrassed before</td>
<td>.002</td>
<td>.05</td>
</tr>
<tr>
<td>Life unsatisfactory after - life unsatisfactory before</td>
<td>.046</td>
<td>.05</td>
</tr>
<tr>
<td>Unable to function after - unable to function before</td>
<td>.000</td>
<td>.05</td>
</tr>
</tbody>
</table>

**Fig. 1:** Before wearing the denture

**Fig. 2:** After the provision of denture
domains used to determine quality of life in OHIP-14 questionnaire.

**DISCUSSION**

Missing teeth in young age results in compromise aesthetics and functions like speech and mastication, early replacement of missing teeth is necessary to overcome these problems. Acrylic partial denture in young age can be useful adjunctive for such patients to restore functions and aesthetics.¹²

Serra et al in their study found that with provision of acrylic prosthesis, masticatory force was markedly improved in comparison to those patients who have missing teeth and dentures were not provided for such pediatric patients.¹³ In this study also there was improvement in mastication after provision of the prosthesis.

The most common reason for missing teeth in this study was caries followed by trauma and hypodontia while one patient was reported after surgical excision of right posterior maxilla due to tumor and one patient was reported for provision of prosthesis due to cleft palate. Krisdapor et al also discussed in his study conducted in Thailand that caries is one of the leading cause of teeth lost in young age.¹⁴

In this study there were five patients who had ectodermal dysplasia with hypodontia as one of its associated feature, Dalben et al¹⁵ discussed a case report in which removable acrylic partial dentures were fabricated for hypodontia patients to restore functions and aesthetics in young patient following routine steps for acrylic partial denture fabrication and found significant improvement in esthetics and function in these patients which was also observed in this study as well for hypodontia patients.

In this study acrylic partial denture cum obturator was also provided for two patients, one had undergone surgical resection of left posterior maxillary arch due to cancerous lesion while teeth were missing in other patient due to cleft palate. For such patients some special design features like incorporation of hollow bulb should be made for better function of prosthesis. Aras¹⁶ discussed as case report in which interim acrylic denture cum obturator was provided for young patient

Montero et al. used OHIP-14 Questionnaire on first visit and after 3 months to observe quality of life in patients provided with removable acrylic dentures in adult Spanish population and found significant improvement in various domains of OHIP-14 after provision of acrylic removable denture while in this study we used OHIP-14 Questionnaire after 6 month of provision of acrylic removable partial denture.¹⁷

**CONCLUSION**

Provision of acrylic partial denture in children will help such patients to restore functions like mastication and speech. Acrylic partial denture also helps to enhance aesthetics as well which will improve the self esteem and social integration of such patients as well.

**REFERENCES**