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Comparison of Oral Health Related Quality of Life in Hypodontia Patients and Patients With Acquired Missing Teeth

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ABSTRACT

Hypodontia is the developmental disorder, one or more teeth are congenitally missing in these patients. This affects their aesthetics, phonetics, function and has a psychosocial impact in their life. A questionnaire (OHRQoL) Oral Health Related Quality of Life measures the potential consequences of the condition to day to day lives of the patient. **Aim of the study:** To compare the OHRQoL in patients with hypodontia and patients with acquired missing teeth. **Material & Method:** Group A, 40 patients with hypodontia and Group B, 40 patients with acquired tooth loss were evaluated with OHRQoL questionnaire. This consists of 14 questions. Response were made on 5 point Likert scale. (0 = never, 1= hardly ever, 2= occasional, 3= fairly often, 4= very often) SPSS software version 11 was used to analyze the data. Two groups compared for OHRQoL scores by using t test. P values < 0.05 was considered to be significant. **Results:** The mean age of hypodontia patient group A was 22 years, and Group B with acquired loss of teeth was 25 years. The response of 1–3 missing teeth in both groups were not different for function and aesthetics. When 4–6 teeth were missing significant difference was found. In the analysis statistically significant psychological discomfort was found in hypodontia patients. **Conclusion:** Loss of missing teeth has impact on function and aesthetics equally if the teeth are congenitally missing or lost by trauma or disease. But there is more psychological discomfort in the hypodontia patients.

INTRODUCTION

The causes of tooth loss can be either acquired or congenital. Hypodontia is the term used to describe the developmental absence of one or more teeth from the dentition, excluding the third molars and constitutes one of the most common anomalies in human[1]. Lack of one or two permanent teeth, with no associated systemic disorders, is the mildest and the most common phenotype. Prevalence of hypodontia ranges from 2.6-11.3%[2].

Teeth have an important role in facial appearance, speech and eating ability. Hence, patients with congenitally missing teeth suffer aesthetic, functional and psychological morbidity to various degree[3]. Along with missing teeth, these patients suffer characteristic changes in teeth, alveolar volume deficiencies and skeletal jaw mal-relationships[3]. Hence the functional and psychosocial impact is more profound in these patients[4].

Oral health related quality of life (OHRQoL) has been considered as an outcome measure to assess the consequences of missing teeth and available treatment options[5]. It provides an insight into the potential consequences of the condition to the day to day lives of patients and thereby facilitates understanding of its importance in the provision of oral health care[5].

There is overwhelming evidence showing the negative effect of acquired tooth loss on OHRQoL[6],[7,8]. But the available information on OHRQoL in patients with hypodontia is scarce. Wong et al.[5] in a study concluded that severe

hypodontia considerably impacts OHRQoL. Hence the aim of the study was to compare the OHRQoL in patients with hypodontia and patients with acquired missing teeth.

MATERIAL AND METHODS

The study sample was 80 with two groups of 40 each. Hypodontia patients were included in Group A and patients with acquired missing teeth in Group B. These patients were recruited from the outdoor of department of Prosthodontics, Punjab Dental Hospital.

Informed consent was taken for each subject and they were asked to fill a questionnaire eliciting information on demographic factors. In addition, a self-administered questionnaire called OHIP-14 (Annexure 1) was used to measure OHRQoL. The questionnaire consisted of 14 questions.

Responses were made on 5 point Likert scale and coded as (0=never: 1=hardly ever: 2=occasionally: 3=fairly often: 4=very often). The scores on Likert scale is inversely proportional to the improvement in OHRQoL.

The criteria for inclusion in the study were patients between 15 and 30 years of age and with less than 6 missing teeth (hypodontia and acquired missing teeth patients assessed clinically, radiographically and by history). Exclusion criteria was patients who were edentulous in one arch and partially dentate in opposing arch and those who were unable to understand the questionnaire.

Statistical analysis

SPSS software version 11 was used to analyze the data. Age and OHRQoL was presented using mean and standard deviation and gender by frequency and percentage. The answers were presented in tabular form and the two groups compared for OHRQoL scores by using t-test. P-values ≤ 0.05 was considered to be significant. Total OHIP score was stratified for number of missing teeth (≤ 3, >3) to address effect modifier.

RESULTS

The mean age of hypodontia patients was 22.2±4.66 years and that of acquired missing teeth patient was 25.2±4.08. In the hypodontia group, there were 27 males and 13 females whereas in the acquired missing teeth group, there were 18 males and 22 females.

In patients with 1-3 missing teeth, total OHIP score in hypodontia group was 13.59±7.10 and that in patients with acquired missing teeth was 11.10±5.11 with no significant difference between the two groups.

In patients with 4-6 missing teeth, total OHIP scores in hypodontia patients was 22.74±7.62 and that in patients with acquired missing teeth was 12.20±5.06 with a significant difference found between the two groups

In the analysis of the questions, it was found that there was no significant difference between the hypodontia patients and acquired missing teeth patients in the domain of functional limitation, physical pain, physical disability, social disability and handicap. However significant difference was found in the domain of psychological discomfort and psychological disability between the two groups, the impact being more in the hypodontia patients.

DISCUSSION

The study compared OHRQoL of hypodontia patients with acquired missing teeth patients as both groups represent partially dentate subjects with similar treatment needs. The prevalence of severe hypodontia is very less. It has been found to be less than 1%[5]. Hence patients with mild to moderate hypodontia (<6 missing teeth) has been included in this study.

Among the various oral health status measures available for measuring OHRQoL, OHIP is one of the most widely used questionnaire. Studies by John et al[9], Ozahayat et al[10], Biazevic et al[11] have used OHIP to assess OHRQoL in patients with missing teeth. In this study also, OHIP has been used to assess the QOL between hypodontia and acquired missing teeth patients. Patients aged 15-30 was included in the study as these age group patients would have better understanding of the questionnaire.

In patients with 4-5 missing teeth, significant difference was found in the total OHIP scores

between hypodontia and acquired missing teeth patients with the OHRQoL being more impaired in the hypodontia group. As the severity of hypodontia increases, the functional and psychosocial problems which these patients face also increases, hence the impact on QOL also increases. Studies by Wong et al[5] and Ide et al[6] support this finding in which they found a strong correlation between number of missing teeth and higher OHIP scores.

In the analysis of the questionnaire, significant difference was found between the two groups in the domain of psychological discomfort and psychological disability with the scores being more for hypodontia patients.

The reason could be that hypodontia patients suffer the impact of missing teeth through their early childhood which might affect their self-esteem, self-confidence and their psychosocial well being. The range of problems that these patients face is greater as the remaining teeth present maybe malformed, malaligned and the condition maybe associated with a syndrome. Study by Wong et al[6] supports this finding in which he assessed the OHRQoL impact among children with severe hypodontia using CPQ and he found that majority of them (88 %) reported OHRQoL impact in the psychological domain.

CONCLUSION

The study found an impaired OHRQoL in hypodontia patients compared to acquired missing teeth patients as the number of missing teeth increased. The domain of psychological discomfort and psychological disability was more affected in the hypodontia group, thus suggesting that the psychosocial impact is more in this group. This study thus highlights the importance of understanding the impact of hypodontia on quality of life.

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