

Does Malocclusion Affect Oral Health Related Quality Of Life?

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Abstract: The concept of Oral Health-Related Quality of Life (OHRQoL) corresponds to the impact of oral health or disease on an individual's daily functioning, well-being or overall quality of life. The purpose of this study was to assess the association between malocclusions and oral aesthetic self-perception in the adolescents of the Mathura High schools.

Keywords: Index of Complexity, Outcome and Need, Oral Health-Related Quality of Life, Malocclusion.

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I. Introduction

The concept of Oral Health-Related Quality of Life (OHRQoL) corresponds to the impact of oral health or disease on an individual's daily functioning, well-being or overall quality of life. Conditions affecting oral health, including malocclusion, are highly prevalent, and have consequences not only for physical and economical well being, but can also impair quality of life by affecting function, appearance, interpersonal relationships, socializing, self-esteem and psychological well-being.¹ Patients with severe malocclusions or dentofacial deformities may report various oral health impacts that affect their well-being in many ways. A combination of orthodontics and orthognathic surgery is, in many cases, a contemporary modality to treat these patients. Understanding the physical, social, and psychological impact of malocclusion on OHRQOL needs more attention, since it sheds light on the effects of malocclusion on people's lives and provides more understanding of the demand for orthodontic treatment beyond clinician parameters.² For young people physical attractiveness is an important factor affecting social relationships. Thus, aesthetic alterations in the face can be self-perceived and can affect quality of life. For instance, among young adults in Finland, the primary motives for orthodontic treatment were to improve dental appearance and attitudes toward malocclusion. In dental research, more emphasis has traditionally been placed on clinician-driven outcome measures than on subjective patient-based measures, such as perceived functional status or psychological and social well-being. While clinician-driven assessment is in some respects relevant, patient-based assessment provides more substantive information concerning the impacts of oral disorders because patients are considered to be the best persons to judge their own oral health-related quality of life.³

The purpose of this study was to assess the association between malocclusion and oral aesthetic self-perception in the adolescents of the Mathura High schools.

II. Materials And Method

The present study was conducted among the students of two Mathura High schools between the age group of 14-17 years. The sample size comprised of 120 students, which were selected randomly. Prior to the start of the study, ethical clearance was obtained from the ethical committee of K. D. Dental College and permission for conducting the study was obtained. The data was collected by means of self-administered questionnaire which comprised of both closed and open ended questions. Participants having their permanent dentition, and no history of orthodontic treatment were included in the study. Students having any previous dental history of orthodontic treatment or students undergoing orthodontic treatment or having mixed dentition were excluded from the study. ICON (Index Of Complexity, Outcome and Need) was used to evaluate the severity of malocclusions in this study.

The malocclusions were divided into three sets according to the ICON chart:

1. Acceptable occlusion: ICON<31
2. Moderate malocclusions and relative treatment need: 31<ICON<43
3. Definite treatment need: ICON>43

Students' malocclusions were clinically examined by a single practitioner according to the ICON chart, and five scores were recorded for each student, which were multiplied by the specific weighting factor of that component in the ICON chart. The sum of these five parts yielded the ICON score. Higher scores indicated more severe malocclusions and vice versa. For bias prevention, the practitioner who measured ICON of students was not informed about the OHRQOL questionnaire scores. For statistical analysis, Pearson correlation test was used to assess the relationship between Oral Health Related Quality of Life and Index of Complexity Outcome and Needs and ($p < 0.05$) was considered statistically significant. SPSS version 17 has been used .

III. Results

Out of 120 students, girls were 76 in number and boys were 44 in number. Students with severe malocclusions had higher OHRQOL scores, i.e. 47.0 (39%) thereby indicating a lower oral health-related quality of life. The mean value for ICON was 25.8 and for QOL was 63.5. (Table.1) Pearson's correlation test indicated a statistically significant correlation between ICON and OHRQOL ($p < 0.05$). By assessing all four sections of the questionnaire separately, it was concluded that among these four sections (oral symptoms, functional limitations, emotional well-being and social well-being), only oral symptoms had a significant relationship with the ICON score ($p < 0.05$) (Table 2).

IV. Discussion

Oral health survey allows researchers and clinicians in understanding patient's needs, trends and they help educate and motivate the patients. Surgeon General of the United States states that oral health includes the entire orofacial complex and is more far ranging than just the health of the teeth. Good oral health enables individuals to communicate effectively, to speak well, to enjoy food, to enjoy a higher quality of life, and to have both a higher self-esteem and social confidence. On the other hand, oral diseases cause serious and long term social (e.g. social confidence) and physical (e.g. heart disease) problems. Despite considerable improvement in the field of oral health worldwide, oral health problems still persist both in developed and developing countries.⁴

Several studies have examined how orthodontic treatment affects OHRQoL. Most researchers have found differences between treated and untreated patients, but scores tend to be skewed toward favourable quality of life, even among patients with severe malocclusion. In the present study, it was found that the students with more severe malocclusions had a lower level of quality of life. LA Foster Page et al⁵ also obtained similar results in his study to validate CPQ11-14 in a population-based sample of 12- to 13-year-olds thereby showing higher overall scores among children with more severe malocclusions or with greater dental caries experience .

On the other hand, a study conducted by Kevin O'Brien et al⁶ in a sample of schoolchildren in Greater Manchester, United Kingdom showed that the CPQ11-14 scores corresponded to differences in need for orthodontic treatment as measured by the IOTN. In addition, when they analyzed the domains of CPQ11-14, it appeared that those differences were mostly concerned with a child's emotional and social well-being. They considered it to be logical because according to them, the most common reason for seeking orthodontic treatment is to correct dental esthetics. It is unlikely that oral symptoms (bleeding gums, pain in the teeth) and functional limitations (speech problems, difficulty in mouth opening, and eating) arise from malocclusion.

Several measures of OHRQoL have been developed for adult populations these days. Most of these grew out of studies that focused on the impact of caries, periodontal disease, and tooth loss and replacement among older adults. These include the General (formerly "Geriatric") Oral Health Assessment Index (GOHAI) and the Oral Health Impact Profile (OHIP). The latter has been widely used and validated with diverse populations and in multiple languages. In conclusion, our results have shown that a high proportion of children need normative orthodontic treatment. Efforts to promote assessment of malocclusions and orthodontic treatment need are strongly needed and usefulness of IOTN should be assessed in further research.

Tables and Figures

	N	MAX.	MIN.	MEAN	SD
ICON	120	88.00 (73%)	21.00 (27%)	25.8	6.25
QOL	120	85.00 (71%)	6.00 (29%)	63.5	17.05

Table 1: Distribution of study subjects according to malocclusion severity (ICON) and OHRQOL level (QOL)

ICON: Index Of Complexity, Outcome And Need

QOL: Oral Health Related Quality Of Life

Table 2: Distribution of study subjects according to Pearson's correlation between ICON and OHRQOL

	OHRQoL	SYMPTOM	FUNCTION	EMOTIONAL	SOCIAL
ICON Pearson Correlation	0.249*	0.243*	0.150	0.169	0.141
Significance (2-tailed)	0.001	0.027	0.190	0.527	0.731
N	120	120	120	120	120

*Correlation is significant at the 0.05 level.

ICON: Index Of Complexity, Outcome And Need

OHRQoL: Oral Health Related Quality Of Life

V. Conclusion

Although malocclusion plays an important role in the oral health related quality of life, the correlation between emotional well-being, social well-being and malocclusions was not as pronounced as in earlier studies. An explanation for this fact could be their adaptation to malocclusions, so that this problem did not affect their lives.

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