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Impact of malocclusion on Quality of Life/ Oral Health Related Quality of Life

Dr. Sandeep Kumar*
Lecturer, Department of Public Health Dentistry, Dental Institute, RIMS, Ranchi-09, India

Original Research Article

***Corresponding author**
Dr. Sandeep Kumar

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Abstract: Malocclusion refers to any deviation from normal occlusion. Genetic, environmental, or a combination of both factors along with various local factors such as adverse or deleterious oral habits can cause malocclusions. The prevalence of malocclusion has been varying in different countries but has always remained a public health concern to every country. It adversely affects quality of life of an individual as such individual's lacks confidence and self-esteem. Besides these, spacing, diastema, crowding and other forms of malocclusion has an inverse association with oral health related quality of life. Effective policies should be drafted and awareness campaigns needs to be conducted to reduce the burden of this disease.
Keywords: malocclusion, quality of life, oral health related quality of life.

INTRODUCTION

OHRQoL is a multidimensional construct that corresponds to the impact of oral health or diseases on an individual's daily functioning, well-being or overall quality of life [1]. The factors that can influence OHRQoL include dental caries [2], gingivitis [3], and malocclusion [4]. Malocclusion may have a stronger and longer-lasting impact on OHRQoL than these other factors, because it is associated with poor speech capability and poor chewing capability [5].

Malocclusion and oral health related quality of Life

The term malocclusion has been included under the heading of 'Handicapping Dentofacial Anomaly' by World Health Organization, who define the anomaly as that which causes disfigurement or which impedes function and requires treatment if the disfigurement or functional defect is likely to be an obstacle to the patient's physical or emotional well-being [6].

The simplest definition of malocclusion is 'a set of deviations from standards of normal occlusion' rather a disease [7]. Malocclusions like various other dental disorders cause a profound impact on aesthetics and psychosocial behavior of adolescents, thus affecting their self-esteem [8]. Genetic, environmental, or a combination of both factors along with various local factors such as adverse or deleterious oral habits can cause malocclusions [9].

A number of studies have found an association between malocclusion and oral health related quality of life [10-14]. On the contrary, there is enough evidence which supports no significant association between malocclusion and oral health related quality of life [11, 15]. These inconsistent findings may be due to differences in the countries involved, the age of the group studied, and the study design, i.e., whether the study was population-based or hospital-based [16]. Thus, associations between malocclusion and OHRQoL need to be assessed in individual countries, as results from one country cannot necessarily be extrapolated to another.

Prevalence of malocclusion

The prevalence of malocclusion varies from country to country and among different ages and sex group [17-19]. There are large variations in the prevalence of orthodontic treatment need in different countries exists, ranging from 11% in Sweden [20] to 75.5% in Saudi Arabia [21].

In India, a large variation in prevalence of malocclusion exists in varying regions of our country. This can be due to variations in ethnicity, nutritional status, religious beliefs, and dietary habits. The prevalence of malocclusion in India varies from 20% to 43% [22].

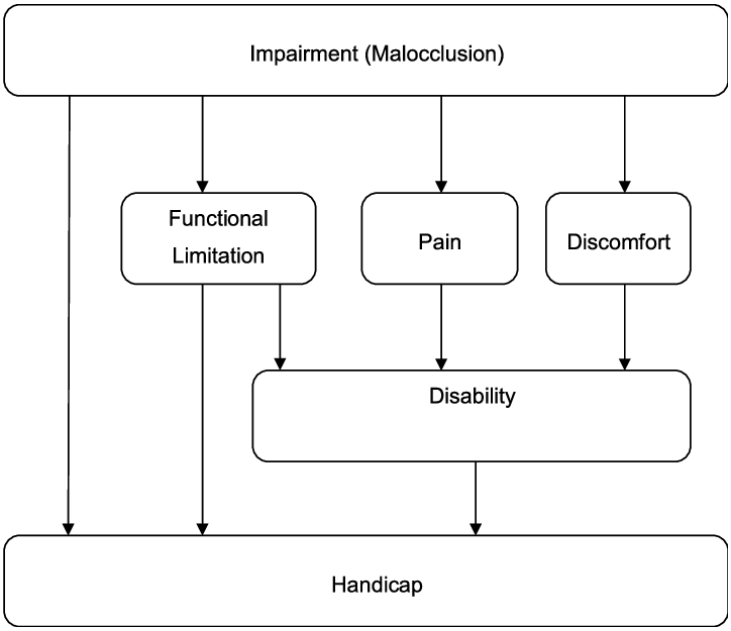
Lockers Model

Locker's model has typically been viewed as a framework rather than as a scientific model to be

empirically validated. There have been few studies that attempted to test the model pathways explicitly [23]. These have included the oral health of the general adult population, as well as the impact of being edentulous and of dental caries experience [23, 24]. However, to date it has not been determined whether, for malocclusion patients, the constructs in Locker's model relate to one another as hypothesized. This may be attributed because of the following reasons:

- Malocclusion different from other oral disease.
- Malocclusion are asymptomatic
- Social and psychological effects are the key motives for seeking orthodontic treatment rather than function limitation or pain or discomfort

Hence, it was believed that the Locker model was not applicable to malocclusion patients in the manner suggested for other oral diseases.



An outline of Lockers Model

Indices used for assessment of malocclusion

These are the Index of Orthodontic Treatment Need (IOTN), Dental Aesthetic Index (DAI), Handicapping Labio-lingual Deviation index, and the Index of Complexity, Outcome, and Need (ICON) [25]. DAI has been integrated into the international guideline of oral health survey by the World Health Organization in assessing orthodontic treatment need [26].

Impact of malocclusion

Physical impact: Pain is a common symptom that can impact on QoL. The etiology of orofacial pain is multifactorial, and while malocclusion per se does not cause orofacial pain, it can give rise to pain indirectly by leading to temporomandibular disorder (TMD), and dental, gingival and mucosal trauma.

Psychosocial impact and impact on social well-being: The appearance and the position of teeth are factors that have greater psychological and social impact on children and young adults, since the appearance of the face has a vital role in building a good human life and stable relationships [27]. Esthetic appearance plays an important role in social interactions and psychological well-being. The appearance of the mouth and smile has a significant impact on judgments regarding facial attraction. Thus, malocclusion may adversely affect social interactions and psychological well-being [28-30].

Malocclusions increase the negative impact on OHRQoL and therefore can in turn negatively affect general well-being of an individual. Simoes *et al*. [31] reported that children with very severe malocclusions experienced greater negative impact on OHRQoL compared to those with mild or no malocclusions. Numerous population-based studies have suggested that children with certain malocclusions are more likely to be the victims of bullying, such as teasing, name-calling and physical bullying.[32,33] Some patients who have a severe malocclusion report that they feel that they are useless, shameful and inferior, and the more severe the malocclusion, the greater the embarrassment felt by the individual.

CONCLUSION

Malocclusion is a public health problem which has a wide prevalence. Malocclusion has a negative impact on health and oral health related quality of life and its domains. Malocclusion should be detected and intercepted at early stages of life in order to improve quality of life of an individual. Dental health educations

and awareness campaigns should be done for the masses. Effective policies should be drafted in order to improve quality of life of such individuals.

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