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REVIEW ARTICLE

Importance of Quality of Life among Orthodontic Patients

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ABSTRACT

Orthodontic treatment, however, unlike many other treatments, depends not only on the clinician but also on the patients' point of view due to its association with social and psychological aspects. It is found that the decision to have treatment is not only based on the severity of malocclusion but also on the patient's wish to improve appearance. Oral health-related quality of life (OHRQoL) is considered as an important factor for the assessment of the evaluation of the outcomes of treatment strategies, dental care priority, and treatment needs. There is lot of evidence that patients consider esthetic and social aspects of OHRQoL as a motive for seeking orthodontic treatment; this is true for children as young as age 8 and for adult patients. For the most part, patients with severe malocclusion appear to have poorer OHRQoL than patients with less critical treatment need in these domains, but not in OHRQoL related to oral function. The OHRQoL assessment tools should be encouraged among orthodontists as a normative clinical indicators to measure the subjective perceptions of patients.

Keywords: Esthetic, Malocclusion, Orthodontic, Quality of life, Social aspects.

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INTRODUCTION

The quality of life as related to oral health has been defined as "the absence of negative impacts of oral conditions on social life, and a positive sense of dento-facial self-confidence." This implies that both psychological and social factors come to play when analyzing OHRQoL.[1]

Due to association with psychological and social aspects, orthodontic treatment depends on both the clinician and the patients' point of view.[2] It is found that the decision to have treatment is not only based on the severity of malocclusion but also on the patient's wish to improve appearance.[3] Oral health-related quality of life is considered as an important factor for the assessment of the evaluation of the outcomes of treatment strategies, dental care priority, and treatment needs. According to the World Health Organization,[4,5] quality of life is the perception that one has regarding one's position in life in the cultural context and the system of values in which one lives in relation to one's goals, expectations, standards, and concerns. The OHRQoL, which is a multidimensional concept, is related to the effect of adverse oral conditions on psychosocial and functional well-being.[6-8] It is generally noticed subjectively, although some researchers have pointed out the feasibility of parents' reporting this for children younger than age 10. Generally, parents ignore the effect of oral problems on their children's social and emotional quality of life. However, there is greater agreement between parents and children in observable aspects of quality of life, such as physical functioning.[9]

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EFFECT OF MALOCCLUSIONS ON THE OHRQoL OF PRESCHOOL CHILDREN

According to different studies, primary dentition is affected mostly with anterior crossbite, posterior crossbite, and anterior open bite. It is found that prevalence of malocclusion ranges from 26 to 87%.[10-13] Most of the studies that evaluate the effect of malocclusion on OHRQoL among preschool children use the Early Childhood Oral Health Impact Scale (ECOHIS).[8] This questionnaire has been validated, tested, translated, and administered in interview form to parents or caregivers. The ECOHIS is composed of 13 items distributed between the Child Impact Section, which has four subscales (symptoms, function, psychology, and social interaction/self-image), and Family Impact Section, which has two subscales (parental distress and family function). Each item is scored using a five-point scale, with responses ranging from "never" (0) to "very often." The individual subscale scores are calculated through the sum of the response codes, and the total score ranges from 0 to 52, with higher scores denoting a greater negative impact on quality of life. "I don't know" responses (score 5) are not included from the total ECOHIS score. It was found that parents or caregivers had a limited view of the oral health status of their children.[14-16] Thus, parents/caregivers interviewed in studies involving the use of the ECOHIS may have had difficulty recognizing the contribution of malocclusion to

a reduction in the quality of life of their children, since the items on this questionnaire seem to have greater sensitivity to the detection of the impact of early childhood caries, as demonstrated in previous studies. Moreover, parents may not feel that malocclusions are as worrisome as other oral conditions, and generally, only perceive impact when an abnormality is obvious and has a psychological and/or social impact on the child.

EFFECT OF MALOCCLUSION AND ORTHODONTIC TREATMENT ON OHRQoL AMONG CHILDREN AND ADOLESCENTS

Mostly children and adolescents are orthodontic patients, who are directly influenced by the school environment, and those having better interpersonal relationships achieve a higher level of learning and academic development. Attractive individuals are considered more interesting, more social, and friendlier. The quality of life and attractiveness of smile had a significant impact of irregularities in the position of the teeth and jaws. In the school setting, such irregularities can affect social interactions, interpersonal relationships, and mental well-being and may lead to a feeling of inferiority. The children and adolescents with malocclusions were found to be targeted of name calling and teasing. Studies have demonstrated that young people with unsatisfactory dental esthetics are sadder than those without such problems.

An unpleasant smile leads to this sadness and can cause self-esteem and can have impact on quality of life. Thus, orthodontic treatment can cause positive impact on children and adolescents having malocclusion, who experience teasing due to this. The face is a slightly stronger indicator of overall attractiveness than the body, and most parents seek specialized orthodontic care for their children to improve dental esthetics as well as overall appearance. A number of studies have demonstrated that normative clinical criteria lead to an underestimation of problems in comparison to the subjective assessment of the affected individual. It is therefore important for orthodontists to identify factors that directly motivate parents in order to design a treatment plan that meets the real needs of the patient and is not merely based on normative clinical indicators. The main reasons children and adolescents seek orthodontic treatment are dissatisfaction with their dentofacial appearance, recommendations from a dentist, and the influence of schoolmates who wear braces. Gender, age, intellectual level, social class, malocclusion severity, and self-perceived facial esthetics have also been found to be associated with the desire for orthodontic care.[17-19] Studies report that upper anterior crowding >2 mm and parents' perceptions of their child's need for treatment are also factors associated with the desire for orthodontic treatment in adolescents. In this study, it was found that the quality of life of adolescents has been affected by this type of malocclusion. The first assessment tool designed to measure the impact of oral problems on the life of children was designed by Jokovic et al[20] and denominated the Child Oral Health Quality of Life Questionnaire (COHQoL). The COHQoL scales were designed to be generic assessment tools to be used as indicators in examinations, tests, and clinical practice, and it is therefore necessary to investigate the performance of the COHQoL in different populations and clinical situations. The Child Perceptions Questionnaire for children aged 8 to 10 years (CPQ8-10) and adolescents aged 11 to 14 years (CPQ11-14) make up part of the COHQoL.[21]

According to Locker et al,[22] the CPQ allows the discrimination of different clinical situations in groups of children and can be used with children in need of orthodontic treatment. The CPQ8-10 has 29 items divided among four subscales (oral symptoms, functional limitations, emotional well-being, and social well-being) and addresses the influence of oral health status in the previous month. A new systematic review showed that there is strong scientific evidence that malocclusions have negative impacts on the OHRQoL of children and adolescents, especially with regard to social and emotional well-being. According to Martins-Júnior et al,[23] more severe malocclusions, such as upper anterior irregularity ≥2 mm, anterior open bite ≥2 mm, and diastema ≥2 mm, have a greater impact with regard to social, emotional, and functional aspects among children aged 8 to 10 years. A recent study using the CPQ8-10 found that anterior segment spacing and anterior mandibular overjet were significantly associated with a negative impact on OHRQoL in schoolchildren. In a different study, increased overjet and a spaced dentition were the malocclusions with the greatest effect on OHRQoL. Orthodontic treatment is associated with gains in physical, social, and psychosocial aspects of quality of life. According to Agou et al,[24] COHQoL assessment tools are adequate for the evaluation of changes in the OHRQoL of children following orthodontic treatment. However, poor oral hygiene, speech impairment, and tooth mobility have been associated with the use of fixed orthodontic appliances, demonstrating a negative influence on the quality of life of adolescents during treatment. To assess the effect of orthodontic treatment among adolescents, measures other than CPQ were used. A study involving the Oral Impacts on Daily Performance and the shortened version of the Oral Health Impact Profile (OHIP-14)[25] evaluated OHRQoL among adolescents using the Index of Orthodontic Treatment Need (IOTN) and found that adolescents who had completed orthodontic treatment had better OHRQoL than those under treatment and those who had not been submitted to treatment. A recent study

compared normative methods of orthodontic treatment needs with the sociodental approach in 12-year-old students and correlated normative measures of malocclusion with the impact of oral health on daily activities.[26] The normative orthodontic treatment needs using the IOTN and Dental Esthetic Index were determined. A marked reduction in normative need estimates for orthodontic treatment were observed using the sociodental approach. According to the authors, the sociodental approach for orthodontic treatment needs can optimize the use of resources at oral health services.

EFFECT OF MALOCCLUSION AND ORTHODONTIC TREATMENT ON OHRQOL AMONG ADULTS

The important aspect of health assessments is found to be the impact of oral health on quality of life. For young people, physical attractiveness is an important factor that affects social relationships, as abnormal facial esthetic alterations can affect quality of life, leading to psychological discomfort.[26] The effect of malocclusions is approximately 46% among young adults, the most common types are incisor crowding and misalignment of lower incisors. Moreover, individuals with severe malocclusion are more likely to have a poor self-perception of their attractiveness in comparison to those with minor malocclusions. The malocclusion severity has the psychosocial impact on dental esthetics. A recent study states that other dentofacial deformities, such as a class III occlusal relation, are associated with lower degrees of self-esteem and a greater impact on OHRQoL among adults. The most commonly employed OHRQoL assessment tools for adults are the OHIP and the OHIP-14. The OHIP-14 is the method of choice for measuring an individual's perceptions and feelings regarding his/her oral health status. The dental literature involving the OHIP-14 provides evidence of the functional and psychosocial benefits of orthodontic treatment. A new study showed that young adults aged 18 to 30 years who got orthodontic treatment done had significantly better OHRQoL scores in the retention phase (after the completion of treatment) than untreated individuals.

"Painful aching" and "been self-conscious" were the most frequent impacts in the treated and untreated groups. Another study showed dental esthetics and quality of life among adults aged 18 to 61 years before and after orthodontic treatment for severe malocclusion.[27] The authors concluded that improvements in esthetic satisfaction due to the treatment of severe malocclusion lead to an improvement in OHRQoL, particularly by decreasing psychological discomfort and psychological disability. However, another study found that fixed orthodontic therapy had a negative impact on overall OHRQoL during the first 3 months of treatment, which then improved to pretreatment scores.[28] Moreover, a significant increase in self-esteem is observed as a final result of the treatment.

The review included studies involving groups before and after treatment (prepost design), studies involving groups with and without malocclusion (independent groups design), and studies comparing a group that had undergone orthodontic treatment to an independent group that required treatment (treated–untreated groups design). The OHIP-14 scores were found to be significantly less among individuals after receiving treatment for malocclusion and individuals without malocclusion compared with those with malocclusion and treatment needs (independent groups). Thus, the evidence clearly showed that orthodontic treatment improves OHRQoL among adults. The sociodental approach, which combines normative and psychosocial perceptions of the dentition, is also recommended for the routine evaluation of treatment needs so that measures of patients' views complement clinical measures in adults.

CONCLUSION

The present review of the effect of malocclusion and its treatment on OHRQoL provides so many consistent findings. There is lots of evidence that patients consider esthetic and social aspects of OHRQoL as a motive for seeking orthodontic treatment; this is true for children as young as age 8 and for adult patients. For the most part, patients with severe malocclusion appear to have poorer OHRQoL than patients with less critical treatment needs in these domains, but not in OHRQoL related to oral function. The employment of OHRQoL assessment tools to measure the subjective perceptions of patients and their families as a complement to normative clinical indicators should be encouraged among orthodontists. Both of the methods, objective and subjective, can contribute to a broader-scoped treatment plan as well as the determination of the best approach for each patient.

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