Impact of Orthodontic Treatment on Oral Health-Related Quality of Life and other psychological variables

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Abstract

The oral-facial region is usually an area of significant concern for the individual, because it draws the most attention from other people in interpersonal interactions and is the primary source of vocal, physical, and emotional communication. As a result, patients who seek orthodontic treatment are concerned with improving their appearance and social acceptance, often more than they are with improving their oral function or health. Enhancing these aspects of quality of life is an important motive for undergoing orthodontic treatment.

The aim of this article is to determine, according to previous studies, changes that occur in oral health-related quality of life during orthodontic appliance therapy, and to assess the impact that the improvement of patients’ dental–facial morphology has at the end of the orthodontic treatment upon other psychological variables: self-esteem and current self-related thoughts.

Introduction

Over the past decade, the impact of oral health and disease, dental appearance, malocclusion, and treatment for these conditions on psychological and functional well-being has drawn increasing attention from clinicians and researchers.

The concept of “oral health-related quality of life” has been defined as “a standard of health of oral and related tissues which enables an individual to eat, speak, and socialize without active disease, discomfort, or embarrassment”, or “the absence of negative impacts of oral conditions on social life and a positive sense of dentofacial self-confidence.” One of the psychological variables involved in the adherence to the orthodontic treatment is self-esteem. Self-image plays an important role in the life of each individual. In their inter-individual relationships, people dedicate more time to the aspect of their interlocutor’s eyes and mouth and less time to other facial features. Results of a study showed that, for the general public, the aesthetics of the smile is in second place, right after the aspect of eyes, in terms of attraction expressed by people’s physiognomy.

The “Oral Health-Related Quality of Life” (OHRQoL) index provides an insight into how individual oral health status affects overall “Quality of Life” (QoL), and how oral health care brings about improvements to patients’ overall QoL. OHRQoL is generally assessed subjectively, although some researchers have discussed the feasibility of parents’ reporting this for children younger than age ten. In general, parents underestimate the impact of oral conditions on their children’s emotional and social quality of life.

The main reason why people frequently undertake orthodontic treatment is to have an improvement in esthetics and a subsequent enhancement of psychosocial well-being, which contributes to QoL. OHRQoL assessments are recommended in orthodontics for a number of reasons: to study treatment needs and outcomes, to study a therapy’s efficiency and impact during said period of treatment, and as part of clinical trials, which have the potential to improve the quality of care. However, few studies have explored the physical, social, or psychological effects of orthodontic treatment or how discomfort and pain affect these aspects of QoL.

Discussion

Subjective aspects such as dental aesthetics, self-perception of dental appearance, as well as attitudes toward malocclusion and orthodontic treatment are important factors in deciding to seek orthodontic treatment. More technical aspects of malocclusion, such as dissatisfaction with ability to chew, were less often a reason for seeking treatment because problems with chewing may be less common among young adults than problems with dental appearance.

The assessment of OHRQoL has an important role to play in clinical practice. The treatment of malocclusion, which has a large psychosocial component, calls for the use of OHRQoL measures.

In a Mu Chen’s study(1), the OHRQoL has been used
to investigate the realities experienced during and after fixed orthodontic appliance therapy, on two-hundred fifty Chinese orthodontic patients. The objective was to assess whether orthodontic treatment affected the levels of OHRQoL outcomes in patients. Interestingly, the scores at pretreatment were low, suggesting that, despite having a perceived orthodontic treatment need, the effect of malocclusion on OHRQoL was modest. Children with acceptable or ideal occlusion and their parents reported higher OHRQoL than those with any degree of malocclusion, specifically children who had increased overjet (>6 mm) or anterior spacing greater than 1.5 mm. Patients who were currently under fixed orthodontic therapy, especially at the first week, would exhibit a compromised OHRQoL, mainly due to pain, discomfort and unsatisfactory diet, compared with any other time.

Orthodontic treatment affected patients’ daily activities, particularly relating to eating, speaking, and smiling. At 1 week after the insertion of fixed appliances, the QoL was at the worst point because the combination of physical pain, psychological discomfort, and physical disability was at its highest level.

This result of this study(1) approximated those of studies involving other patient groups with malocclusion. Patients undergoing orthodontic treatment were more likely to report an oral health impact, which may suggest that the process of treatment causes oral health impacts and affects the patients’ QoL.

Sergl et al(2) reported that the most frequent complaints were impaired speech, impaired swallowing, feeling of oral constraint, and lack of confidence in public after undergoing different appliance treatments. Nor were a generalized feeling of oral constraint and lack of confidence related to the type of appliance worn. This indicates that these problems are caused by the presence of a foreign appliance in the oral cavity. However, the type of appliance did have an effect on impaired speech and swallowing.

Miller et al(3) carried out a comparison of treatment impacts between Invisalign aligners and fixed appliance therapy during the first week of treatment and found that adults treated with Invisalign aligners experienced less pain and fewer negative impacts on their lives during the first week of orthodontic treatment than did those treated with fixed appliances.

According to the Chinese study(1), the OHRQoL might improve gradually during therapy and would exhibit no obvious difference from pretreatment to the interval at 1 month after the fixed orthodontic appliance was bonded. At 1 month, a significant reduction in the number of complaints occurred, and the level of OHRQoL at this time was similar with pretreatment. As treatment progressed, the total score had declined despite physical pain, psychological discomfort, physical disability, and social disability being still somewhat compromised. This indicates either actual decreases felt and experienced, adaptation to treatment, or learned experience of treatment. When patients finished orthodontic treatment and debonded appliances, the OHRQoL seemed to be much better than at pretreatment.

It is generally recognized that patients benefit psychologically from orthodontic treatment through improved facial and dental appearance and the associated increased self-confidence that accompanies those changes. Patients may experience a temporary compromised OHRQoL in the beginning of fixed orthodontic therapy, particularly as it relates to eating, speaking and smiling, and a better OHRQoL once therapy has run its course.

Doctors, for their part, should also actively comfort patients and relay that the OHRQoL might improve gradually during therapy, in addition, doctors should impart that when the patient finishes orthodontic treatment, the OHRQoL will be significantly better than at pretreatment.

In a study by Sigelman KC and Shaffer RD(4), that assessed the level of self-esteem at ages of 8–11-year-old, 12–14-year-old and 15–18-year-old, the authors conclude that the most important problems related to self-image appeared to adolescents of 12–14-year-old, in terms of low self-esteem. The explanation would be that adolescents of 12–14-year-old accumulate a series of physical changes for which they do not possess the satisfactory psychological skills. The desire to retouch or to mask/cover different physical imperfections becomes more evident with girls.

De Oliveira’s research(5) illustrated that adolescents who had orthodontic treatment in the past reported significantly fewer oral health impacts than those who were currently under treatment or who never had treatment. Adolescents who had completed orthodontic treatment had a better oral health-related quality of life than those currently under treatment or those who never had treatment. It is generally considered that patients benefit psychologically from orthodontic treatment through improved facial and dental appearance and the associated increased self-confidence that accompanies those changes.

These findings were corroborated in a study by Kiyak
et al (6), that investigated the pre- and post-operative psychological characteristics of patients undergoing orthognathic treatment. They found high levels of satisfaction following orthognathic surgery, and patients reported considerable improvements in their facial appearance and body image. These authors concluded that satisfaction following treatment was generally high, with patients viewing themselves more positively.

Conclusions

There is ample evidence that patients focus primarily on esthetic and social aspects of OHRQoL as a motive for seeking orthodontic treatment, and that fixed orthodontic appliance therapy did affect patients’ OHRQoL. According to Mu Chen’s study, patients were considerably compromised in terms of their overall OHRQoL until approximately 1 month after insertion. The severity of the compromised condition in terms of overall OHRQoL was greatest at 1 week with the reported impact on physical pain, psychological discomfort, and physical disability. Patients’ OHRQoL was better after they completed the orthodontic treatment than before or during treatment. The improvement of their facial aspect at the end of the treatment showed a significantly positive correlation with the variables of global self-esteem, self-related current thoughts, social self-esteem and performance.

Orthodontic treatment clearly reduces the oral health impacts among adolescents. However, orthodontic treatment may have negative impacts on quality of life during the treatment(5).

The improvement of the physical aspect at the end of orthodontic treatment has positive connotations on the psychological variables: self-esteem, social self-esteem, performances, and on the global self-related current thoughts. The improvement of the dental–facial morphology due to the orthodontic treatment justifies the necessity of such a treatment in children and adolescents with dental–maxillary anomalies, in order to increase the index of quality of life.

References

16. Gift HC, Atchison KA. Oral health, health, and health-related quality of life. Med Care 1995; 33:
NS57–NS77.