

IN BRIEF

- Traditional measures of orthodontic need have placed relatively little emphasis on the impact of malocclusion on either the patient's or their family members' quality of life.
- These findings highlight that the presence of occlusal traits such as increased overjet or dental spacing have a significant negative impact on not only the child, but also their family's quality of life.
- The importance of the potential role parents play in influencing the child's uptake of orthodontic treatment and the subsequent support and compliance attained is alluded to.

The impact of malocclusion on quality of life

The impact of two different malocclusion traits on quality of life **A. Johal,¹ M. Y. H. Cheung² and W. Marcenés³**

ABSTRACT

Objectives The purpose of this prospective study was to assess the impact of two occlusal traits on the quality of life of children and their families.

Methods A total of 180 subjects, which included 90 consecutive patients (aged 13–15 years) and their parents, were recruited on the basis of predetermined criteria to the following groups: increased overjet, spaced dentition and control. Each subject and their parent underwent separate supervised completion of a Child or Parental-Caregiver Perception questionnaire, respectively, which are components of the Child Oral Health Quality of Life questionnaire.

Results The three groups were shown not to demonstrate any differences in socio-demographic characteristics. Statistically significant differences were observed between children in the control group and their counterparts in the increased overjet ($p = 0.002$) and spaced dentition ($p < 0.001$) groups. However, no such difference was detected between children in the increased overjet and spaced dentition groups ($p = 0.5$). Parents of these children demonstrated similar statistical findings: $p = 0.007$, $p = 0.003$ and $p = 0.9$, respectively.

Conclusions Occlusal traits such as an increased overjet and a spaced dentition have a significant negative impact on both the children's and their families' quality of life.

EDITOR'S SUMMARY

A person's appearance can have a big effect on how they feel about themselves, which in turn has an impact on their quality of life. This may be particularly true for children and adolescents with poor teeth or unattractive occlusal traits, who can become targets for teasing, name-calling and harassment from other children. While it is now increasingly accepted that measuring oral health-related quality of life can play an important part in clinical dental practice, measures of orthodontic need have traditionally placed relatively little emphasis on the impact malocclusion can have on the patient's quality of life.

Johal *et al.* have investigated this aspect of oral health by assessing the impact of two different malocclusion traits, increased overjet and spaced dentition, on the quality of life of children and their families. They found that not only did both these traits have a significant negative impact on the children's quality of life, but their families' quality of life was also affected. This latter finding is particularly significant, as it may increase the likelihood of any treatment achieving a successful outcome – an affected parent may be more likely to encourage their child to undergo orthodontic treatment, and more likely to offer the orthodontist a measure of treatment compliance and support.

Although it may seem obvious to many that malocclusion can negatively affect a patient's quality of life, it can be difficult to measure and therefore confirm. This study adds important information to the evidence-base.

The full paper can be accessed from the *BDJ* website (www.bdj.co.uk), under 'Research' in the table of contents for Volume 202 issue 2.

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FULL PAPER DETAILS

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AUTHOR QUESTIONS AND ANSWERS

Why did you undertake this research?

There appears to be some evidence to suggest individuals who have unaesthetic occlusal traits can attract unfavourable social responses. Patients who are being teased and ridiculed tend to be unsure of themselves in social interaction and have low self-esteem. Traditionally, measures of orthodontic need and outcome have placed relatively little emphasis on the patient and parent's perception of need and more importantly, the difference that orthodontic care makes to their daily lives. Whilst the literature evaluates the importance of an increased overjet on psycho-social wellbeing, the impact of dental spacing on quality of life (QoL) has not been previously assessed. Furthermore, the impact of a child's malocclusion on family members has not been assessed using a validated measure of QoL. Thus, we undertook this study to assess the impact of two different malocclusion traits (increased overjet and dental spacing) on the QoL of children and their families.

What would you like to do next in this area to follow on from this work?

Having established from the current research the impact of these two occlusal traits, further research is needed to test the impact of additional malocclusions, which may similarly impact negatively on both the child and their family, and evaluate the effects of orthodontic treatment of these conditions on QoL of children and their parents. A collaboration of senior lecturers with specific interests in the impact of malocclusion on QoL, including the corresponding author, have recently gained funding to not only address these questions but also the effect of orthodontic treatment on QoL.

COMMENT

Talk to any orthodontist and they will tell you that patients benefit from the treatment they provide, however the proof for this has so far proved elusive. The evidence that straight teeth are easier to clean and therefore less likely to suffer decay and/or periodontal disease; or that getting teeth to meet perfectly will lead to a functional advantage is at best tenuous. The notion that the main benefit of orthodontics is psycho-social seems more logical, but is much harder to measure and quantify. It is perhaps fortunate, therefore, that medicine, as well as dentistry, is starting to recognise the need to listen to and develop measures to assess the patient's requirements and concerns. In dentistry the concept of oral health related quality of life (OHRQoL) is being developed to complement clinical indicators and provide a more complete picture of an individual's welfare.

This study has used a measure, the Child and Parent Perceptions Questionnaire, which forms part of the Child Oral Health Quality of Life questionnaire. This has been produced specifically to measure OHRQoL in the adolescent; a typical period for orthodontic treatment to be carried out. Adolescence can be a tricky time to measure QoL, because of the many physical and emotional changes that the young adult is going through. Although the measure has been developed for use in this age group, it has not been specifically tested for orthodontic problems and therefore might require further refinement.

This study found that adolescents with an increased overjet or anterior spacing have a higher number of impacts (and hence a lower QoL) than a non-malocclusion control. It would be interesting to examine which of the four subsections of the questionnaire, namely oral symptoms, functional limitations, emotional or social well-being, scored worse, as some evidence suggests a link between malocclusion and psycho-social problems.

The authors have studied an ethnically diverse group and it would be interesting to examine if this measure is equally valid across the racial groups, particularly as in some cultures anterior spacing is seen as desirable.

Overall this was a well-designed study, which has helped to confirm what every orthodontist instinctively knew, but until recently has found hard to measure; that there is a psychosocial impact of malocclusion on adolescents.

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