

# BRUXISM

## Linking bruxism to emotions



### BACKGROUND

Bruxism is a repetitive clenching or grinding of the teeth or bracing or thrusting of the mandible and is often reported by members of the general adult population. It may occur during sleep (sleep bruxism, SB) or while awake (awake bruxism, AB). Negative side effects can accompany bruxism, such as dental problems or musculoskeletal pain and dysfunction. A multifactorial causation has been postulated for bruxism, with central factors, such as biological, lifestyle, and psychological factors, playing a significant role. Among the psychological factors are emotions such as stress and anxiety. Both of these emotions are commonly associated with bruxism, but associations with other emotions, such as anger and frustration, are as yet unidentified. An investigation was undertaken to identify any association between self-reported AB and SB and anger and frustration.

### METHODS

The method chosen for the study was a longitudinal observational investigation. The 55 adult participants (mean age 28.4 years) had possible AB or possible SB, defined as self-reported bruxism using a questionnaire and/or anamnesis. Each participant had to complete a diary entry once a day, which consisted of the Numeric Rating Scales (NRS) for the experienced level of AB or SB, distress, anxiety, anger, and frustration. The diary also asked about the amount of alcohol, cigarettes, and caffeine consumed. Each week participants also completed a validated questionnaire to check whether the daily scored items were reliable. Definitions used for the various emotions were as follows:

- Stress: a feeling of strain or pressure; the responses made to stimuli that disturb one's equilibrium or tax or exceed one's ability to cope
- Anxiety: a feeling of fear, insecurity, or uncertainty
- Anger or hostility: a moderate form of rage that can be caused by frustration
- Frustration: a feeling of disappointment or perceived resistance to the desire of a will or to the achievement of a goal

The correlations between bruxism and these different emotions were analyzed statistically.

### RESULTS

The correlations between the different emotions ranged from the highest between anger and frustration and the lowest between anxiety and anger. All were significant. In addition, significant positive correlations were found between the weekly scored questionnaires and the daily scored rating scales for all variables except some aspects of anger. Adding the variables

glasses of alcohol consumed, number of cigarettes smoked, and sleep time did not improve the statistical model, so these were omitted from the model.

Overall the effect of anger and frustration on bruxism was found to be small, but it varied substantially among the individual participants. For some subjects anger had a major effect on SB. The effects of distress and smoking cigarettes on SB and the effects of anxiety and distress on AB were statistically significant.

### DISCUSSION

A minor, nonsignificant group-level correlation was found between self-reported anger and frustration and possible AB and SB. Major interpersonal differences were identified. These may result from general interpersonal differences but could also represent the altered perception of bruxism due to differences in body awareness. Factors that may influence the findings include the fact that the diagnosis of bruxism is based on self-reports, the fact that the emotions anger and frustration are very similar and may be difficult for individuals to distinguish accurately and repeatedly, and the co-experiencing of emotions such as distress and anger or frustration. These factors may make it difficult for participants to score daily items adequately.

#### Clinical Significance

Coping style and locus of control determine how a person handles stress and anxiety. Those with active coping mechanisms focus on trying to control the situation, whereas those with more passive approaches tend to withdraw and surrender their control. With respect to coping strategies, individuals who are externally oriented will express their feelings and involve their social environment in handling the problem. Those who are internally oriented will not share their problem but will suppress. The psychological stress caused activates the sympathetic nervous system, leading, among other things, to rapid breathing and increased heart rate, increased muscle tension, and increased blood pressure. The oral region becomes a participant in the individual's expression or suppression of emotions, representing a door between these outward- or inward-focused coping strategies. Thus bruxism may reflect an increased muscle tension in the oral region related to the suppressing of emotion.

# DENTAL UTILIZATION

## Multimorbidity and dental visits



### BACKGROUND

Seeing a dentist regularly is associated with better oral health and oral health-related quality of life. Focusing on prevention through regular visits to the dentist may help to reduce the overall costs by addressing problems before they become more complex and costly. Factors that influence dental attendance should be identified to help in planning health policies to encourage regular dental care. The factors of age, gender, socioeconomic status, and cost of treatment have been shown to influence dental attendance. It remains unknown whether long-standing health conditions are related to dental attendance, although evidence suggests that some persons with chronic diseases are at increased risk for dental diseases and for not seeking dental care regularly. Some individuals have multiple long-standing health conditions, which is termed multimorbidity. Associations between long-standing health conditions, whether a singular disease or multimorbidity, and dental attendance were sought, along with the effect of socioeconomic status on regular dental care.

### METHODS

The data were taken from wave 2 (2013–2015) of the Yorkshire Health Study (YHS), which is an observational cohort study that collects information on the residents age 18 to 86 years living in the Yorkshire and Humberside region of England. A total of 7654 individuals were included. Data included dental attendance, long-standing health conditions, age, gender, level of education attained, smoking, body mass index, and area-level deprivation. Associations were sought between dental attendance and long-standing health conditions and multimorbidity.

### RESULTS

Overall, 63.1% of the individuals (4826 persons) attended the dentist regularly and 36.9% did not (2828 persons). Those who saw the dentist regularly tended to be older (mean age 61.6 years) than those who did not (mean age 54.8 years). Among those who attended the dentist regularly, a larger proportion were classified as having achieved a low level of education. A slightly higher percentage of those who did not see the dentist regularly came from the most deprived quartile. A higher proportion of smokers did not seek dental care regularly, but a larger

proportion of those who attended the dental clinic regularly had multimorbidity compared to non-attendees.

No association was observed between having 1 long-standing health condition and dental attendance. However, persons with 2 or more long-standing health conditions were 19% less likely not to have seen the dentist in the previous 3 months. When the data were stratified by educational level attained as a proxy for socioeconomic status, those classified as having a low educational level and a single long-standing health condition and those who had a moderate education and 2 long-standing health conditions were less likely not to see the dentist regularly than those who had a high education levels and no long-standing health conditions.

### DISCUSSION

Individuals with multimorbidity were more likely to see the dentist regularly than those without multimorbidity. Socioeconomic status had little effect on the association.

#### Clinical Significance

Individuals who had multiple long-standing health problems were more likely to see the dentist regularly than other individuals. When planning for care delivery options, it must be remembered that these individuals may require special considerations for accessing dental care, for receiving specific treatments, and for continuing to attend dental visits for their oral health needs. Because of their multimorbidity status, these patients' oral health will likely be in need of careful attention.

Wade A, Hobbs M, Green MA: Investigating the relationship between multimorbidity and dental attendance: A cross-sectional study of UK adults. *Br Dent J* 226:138-143, 2019

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