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Bruxism - a common problem in the adult population

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ABSTRACT

Introduction and Purpose:

Bruxism, the involuntary grinding or clenching of teeth, is a common problem in the adult population. This research aims to provide an overview of bruxism, focusing on its etiology, symptoms, diagnosis, and treatment, with the ultimate goal of enhancing understanding and promoting effective management strategies.

Description of the State of Knowledge:

Bruxism has been recognized as a prevalent dental disorder affecting a significant portion of the adult population. The condition involves the repetitive motion of grinding or clenching teeth, often occurring during sleep or subconsciously during waking hours. While its exact etiology remains multifactorial, stress, anxiety, malocclusion, and lifestyle factors are frequently implicated. The symptoms range from dental damage and jaw pain to headaches and disturbed sleep patterns, necessitating a comprehensive understanding of the disorder for accurate diagnosis and appropriate intervention. Current knowledge highlights the importance of early detection and tailored therapeutic approaches to alleviate symptoms and prevent complications.

Summary:

This article synthesizes existing knowledge on bruxism, addressing its etiological factors, clinical manifestations, diagnostic modalities, and available treatment options. By consolidating the state of knowledge, this research contributes to a more comprehensive understanding of bruxism and facilitates the development of evidence-based approaches for its management.

Key Words: Bruxism, teeth grinding, clenching, sleep bruxism, awake bruxism

INTRODUCTION

Bruxism is a common dental condition that affects a significant portion of the adult population. It is characterized by the involuntary grinding or clenching of teeth and can occur during sleep (sleep bruxism) or unconsciously during waking hours (awake bruxism). The etiology of bruxism is multifaceted and involves a combination of genetic, psychological, and environmental factors. Therefore, it is important to comprehensively explore its causes. This article offers a comprehensive analysis of bruxism, covering its causes, symptoms, diagnosis, and treatment options to provide a complete understanding of this prevalent dental condition. [1, 2]

MATERIALS AND METHODS

For this review, we conducted a manual search of the PubMed, Web of Science, Google Scholar, and Wiley databases for English articles on bruxism. We used the keywords 'Bruxism', 'teeth grinding', 'clenching', 'awake bruxism' and 'sleep bruxism'. Our search was limited to English articles published between 2015 and 2023, along with their references. We evaluated titles, abstracts, and full texts, only including those that properly matched and described the topic. The articles included prospective and retrospective studies, as well as reviews.

ETIOLOGY

The causes of bruxism are not yet fully understood, but it is believed to have a multifactorial origin that often involves a combination of biological, psychological, and environmental factors. Stress and anxiety are commonly listed as causes, leading individuals to unconsciously grind or clench their teeth in response to emotional tension. Furthermore, malocclusion, abnormal bite, or missing teeth may contribute to the development of bruxism, highlighting the importance of dental factors in its origin. In addition, it is worth noting that lifestyle factors such as excessive caffeine intake, smoking, drug use, and antidepressants increase the risk of bruxism. Furthermore, some sources suggest that mechanical trauma to the brain and chronic diseases, such as Parkinson's, may also play a significant role. [3-10]

SYMPTOMS

Bruxism affects 8-10% of the adult population, with patients often unaware of the disorder. It is most prevalent among people aged 25-45 and can cause a range of symptoms that

negatively impact oral health and overall well-being. Prolonged teeth grinding can result in dental damage, such as enamel wear, tooth fractures, and increased tooth sensitivity. Individuals with bruxism often experience jaw pain, facial soreness, and discomfort in the temporomandibular joint (TMJ). This is caused by the muscles used when clenching the jaw. Other symptoms that require attention include bleeding gums, frequent mouth inflammations, headaches (especially upon waking), disturbances in sleep patterns, tinnitus, neck and back pain, and tension in the shoulder area. Recognising these signs is essential for early intervention and the prevention of long-term complications. [8-11]

DIAGNOSIS

Diagnosing bruxism requires a comprehensive assessment that considers two objective indicators. Patient history, including reported symptoms and potential stressors, forms a crucial component of the diagnostic process. Clinical examination may reveal dental abnormalities, such as worn tooth surfaces and signs of temporomandibular joint dysfunction. Polysomnography and electromyography are useful tools for objectively assessing sleep bruxism and monitoring muscle activity during wakefulness. Collaborative efforts between dentists and sleep specialists can improve the accuracy of diagnosis and facilitate tailored treatment plans.

The American Academy of Sleep Medicine (AASM) has developed criteria for diagnosing bruxism. [1, 10, 12-14]

AASM clinical diagnostic criteria.

Patient History	Clinical Evaluation
Recent patient, parent, or sibling report of the occurrence of tooth-grinding sounds during sleep for at least 3–5 nights per week in the last 3–6 months	-Abnormal tooth wear -Hypertrophy of the masseter muscles on voluntary forceful clenching -Discomfort, fatigue, or pain in the jaw muscles (transient, morning jaw-muscle pain and headache)

TREATMENT

The aim of treating bruxism is to alleviate symptoms, prevent dental complications, and address underlying factors. Behavioral interventions, such as stress management techniques, biofeedback, sports, and meditation, have proven to be beneficial in reducing the frequency and intensity of teeth grinding. Dental physiotherapy, which includes massages and exercises to relax the jaw muscles, is also applicable. Dental interventions, such as treating malocclusion with braces or manufacturing occlusal splints or mouthguards to protect against the effects of bruxism, may be necessary. In severe cases, pharmacological agents, such as benzodiazepines, anticonvulsants, β -blockers, serotonergic and dopaminergic drugs, antidepressants, and muscle relaxants, may be considered to reduce stress and anxiety and improve sleep quality and duration. A comprehensive and personalized treatment strategy can be provided through a multidisciplinary approach involving dentists, sleep specialists, and mental health professionals. [1]

CONCLUSION

In conclusion, bruxism is a common concern in the adult population. It is important to have a thorough understanding of its etiology, symptoms, diagnosis, and treatment. This research contributes to the collective knowledge surrounding bruxism and informs clinicians and researchers in developing effective strategies for its management. Early recognition and

intervention are paramount in mitigating the impact of bruxism on oral health and overall well-being.

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No conflict of interest.

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