


# The Relationship Between the Patient's Personal Assessment of Bruxism and Periodontal Status

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	<p><b>Abstract</b></p> <p><b>Bruxism is an unconscious recurring episode of masticatory muscle activity, which is not necessarily a disorder in healthy people. There are two forms of Bruxism: wakefulness bruxism and sleep bruxism.</b></p> <p><b>Keywords:</b></p>
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## Introduction

Given the complexity and inaccuracy of the diagnosis of bruxism, the assessment system was revised based on the consensus of 2018, according to which the possible diagnosis of sleep/wakefulness bruxism is based only on the personal assessment of the patient, probable sleep/wakefulness bruxism is based on clinical examination data regardless of whether the patient reports bruxism or not, and certain sleep/wakefulness bruxism is based on data instrumental assessment, regardless of the patient's personal assessment of the fact that he has bruxism and/or positive/negative clinical examination data.



Sleep bruxism is of great interest to medical practitioners and scientific research worldwide. The disease is characterized by compression and friction of teeth at night (sometimes during the day), due to increased, subconscious contraction or spasm of the chewing muscles. Screening and monitoring of patients with sleep bruxism is one of the urgent problems of modern dentistry. High interest in the parafunctional activity of the masticatory muscles is associated with such concomitant clinical symptoms of bruxism as facial pain and headaches, increased tooth abrasion, diseases of the temporomandibular joint (TMJ) and, of course, failures in the therapeutic and orthopedic treatment of this group of patients. The prevalence of sleep bruxism ranges from 5 to 80%. Such a wide range is associated with the difficulty of diagnosis and, of course, requires clarification. To date, there is no consensus on the causes of bruxism. A number of authors consider occlusive disorders to be one of the main etiological factors. However, not all patients with occlusion disorders have signs of active bruxism. At the same time, quite often patients without occlusion pathology suffer from parafunction of the masticatory muscles. In studies by F. Lobbezoo et al. (1996,2008), the influence of the dopaminergic system on the occurrence of episodes of bruxism is noted. There is also an assumption about the presence of a central generator of bruxism in the medulla oblongata [244]. According to the statements of most domestic and foreign researchers, stress is one of the leading causes of the disease. Stressful situations are an integral part of modern life. It has been scientifically proven that for each individual, nature has a stress management function (stress management), which represents subconscious, uncontrolled episodes of compression and friction of teeth. S. Sato, K. Sassaguri (2008) believe that bruxism is a kind of somatic platform for reducing the level of psychological stress. In turn, active episodes of clenching and friction of teeth can lead to dysfunctional conditions of the dental and maxillary system. According to WHO (2008), TMJ dysfunction is the third most common disease of the stomatognathic system after caries and periodontal diseases. During epidemiological examination in 35 countries of the world, the incidence of TMJ diseases in people aged 35-45 years exceeded the level of 75%. In the USA and Germany, the cost of treating musculoskeletal dysfunction of the temporomandibular joint is second only to the cost of treating malignant tumors. Thus, the search for biomarkers of active bruxism, determining the boundaries beyond which the normal function of stress management turns into parafunctional activity, leading to the development of dysfunctional conditions, is a priority area of modern dentistry. It is important to prevent the development of dysfunctional conditions by timely diagnosis of bruxism. There are a number of criteria for the clinical diagnosis of bruxism. According to the American Academy of Sleep Medicine (AASM, 2005), diagnosis is based on patient complaints of clenching or grinding of teeth during sleep and the presence of one of the following clinical signs: increased tooth abrasion; discomfort, fatigue or pain in the chewing muscles; hypertrophy of the chewing muscles and/or jaw blockage upon awakening. However, not all episodes of bruxism are accompanied by sound, and patients themselves are often unaware of the presence of motor phenomena during sleep. Quite often, bruxism has a latent course and it is quite difficult to distinguish the normal physiological activity of the masticatory muscles from the parafunctional one. Thus, the method of clinical diagnosis of sleep bruxism is not reliable enough. The diverse clinical picture, the lack of consensus on the etiology and pathogenesis of masticatory muscle parafunctions complicate the diagnosis of bruxism, which, as before, remains an unresolved problem. Surface electromyography (EMG) helps in the diagnosis of bruxism. It has several advantages: a moderate

cost and the ability to make several recordings in a dental clinic. However, the lack of a standard protocol for conducting the study, the use of various devices and techniques by specialists and, as a result, differences in the reference values of the bioelectric activity of the chewing muscles (BEA) complicate the use of the method in practice. The "gold" standard for the diagnosis of bruxism is polysomnography. The study is conducted in a sleep laboratory and includes several tests: an electroencephalogram (EEG) to measure brain activity, an electromyogram (EMG) to measure the activity of the masticatory muscles (masticatory and temporal muscles), an electrocardiogram (ECG) to determine heart activity, oxyhemometry, shown to measure blood oxygen levels, volume and frequency determination breathing, as well as audio/video recordings to exclude motor activity that is not related to bruxism. Polysomnography requires a lot of time and costs, serious technical support, which limits its use as a routine diagnosis. Polysomnography is mainly used for diagnosis in 7 complex clinical cases (epilepsy, complex movement disorders during sleep) and for research purposes, while, as a rule, it is characterized by a small sample size. In daily clinical work, dentists need simple and practical methods to conduct early diagnosis of bruxism and identify the risk of its occurrence (screening), as well as to assess the dynamics of bruxism activity (monitoring). The use of an individually made BruxChecker mouthguard allows you to visualize static and dynamic tooth contacts during sleep. "BruxChecker" is a film for the manufacture of vacuum molds (0.2 mm thick), with a one-sided staining coating. A mouth guard for the patient is formed from the film on plaster models of the jaws in the "Biostar", "Ministar" or "TwinStar" apparatus. The BruxChecker mouth guard is applied to one jaw for one night. When teeth are compressed at night, the stained surface of the mouth guard is erased at the places of tooth contact. However, to date, there is no objective and convenient method for quantifying the facets of erasure on BruxChecker, which allows the daily use of mouthguards in dental practice and monitoring for research purposes. That is why the development of a method for quantifying sleep bruxism is one of the promising areas of modern dentistry.



**The aim of the study** was to assess the relationship between the patient's personal assessment of bruxism (SR) and periodontal status.

## Materials and methods

The study involved 1,064 people from the southern region of the Lisbon Metropolitan Area (Portugal). All patients underwent a questionnaire (SR). The condition of periodontal tissues in the area of all teeth of the upper or lower jaws was assessed by measuring the depth of probing (PD), the level of clinical attachment (CAL), gum recession and bleeding during probing (BoP). The analysis of the relationship between personal assessment of bruxism and periodontitis was carried out using logistic regression.

## Results

In patients with self-reported bruxism, the prevalence of periodontitis was lower. In patients with bruxism, which was reported by patients themselves with a history of periodontitis, the depth of probing and CAL values were significantly lower than in patients with periodontitis alone. Patients with SR bruxism had a lower risk of developing periodontitis. In patients with SR-bruxism of wakefulness, the values of PD, CAL, and BoP were significantly lower than in patients with a possible diagnosis of sleep bruxism or absence of SR-bruxism.

## Conclusions

Bruxism, which is reported by patients themselves, and periodontal status are related by inverse dependence. Patients with personality-based bruxism are less likely to develop periodontitis. Further research is needed.

## References

1. Asrorovna, X. N., Baxriddinovich, T. A., Bustanovna, I. N., Valijon O'g'li, D. S., & Qizi, T. K. F. (2021). Clinical Application Of Dental Photography By A Dentist. The American Journal of Medical Sciences and Pharmaceutical Research, 3(09), 10-13.
2. Ugli, A. A. A., & Bustanovna, I. N. (2024). STUDY OF THE CONDITION OF PARODONT IN PERIODONTITIS IN FETAL WOMEN. European International Journal of Multidisciplinary Research and Management Studies, 4(05), 149-156.
3. Kizi, J. O. A., & Bustanovna, I. N. (2024). FAMILIARIZATION WITH THE HYGIENIC ASSESSMENT OF THE CONDITION OF THE ORAL MUCOSA IN ORTHOPEDIC TREATMENT. European International Journal of Multidisciplinary Research and Management Studies, 4(05), 89-96.
4. Bustanovna, I. N. (2024). Determination of the Effectiveness of Dental Measures for the Prevention of Periodontal Dental Diseases in Workers of the Production of Metal Structures. International Journal of Scientific Trends, 3(5), 108-114.
5. Bustanovna, I. N. (2022). Assessment of clinical and morphological changes in the oral organs and tissues in post-menopause women. Thematics Journal of Education, 7(3).
6. Bustanovna, I. N., & Berdiqulovich, N. A. (2022). ПРОФИЛАКТИКА И ЛЕЧЕНИЯ КАРИЕСА У ПОСТОЯННЫХ ЗУБОВ. JOURNAL OF BIOMEDICINE AND PRACTICE, 7(1).



7. Bustanovna, I. N. (2024). PATHOGENESIS OF PERIODONTAL DISEASE IN ELDERLY WOMEN. Лучшие интеллектуальные исследования, 21(3), 25-29.
8. Bustanovna, I. N. (2024). TO STUDY THE HYGIENIC ASSESSMENT OF THE CONDITION OF THE ORAL MUCOSA DURING ORTHOPEDIC TREATMENT. Лучшие интеллектуальные исследования, 21(1), 9-15.
9. Bustanovna, I. N. (2024). CLINICAL AND LABORATORY CHANGES IN PERIODONTITIS. Journal of new century innovations, 51(2), 58-65.
10. Bustanovna, I. N. (2024). Morphological Changes in Oral Organs and Tissues in Women after Menopause and their Analysis. International Journal of Scientific Trends, 3(3), 87-93.
11. Bustanovna, I. N. (2024). Hygienic Assessment of The Condition of The Oral Mucosa After Orthopedic Treatment. International Journal of Scientific Trends, 3(3), 56-61.
12. Bustanovna, P. I. N. (2024). Further Research the Features of the Use of Metal-Ceramic Structures in Anomalies of Development and Position of Teeth. International Journal of Scientific Trends, 3(3), 67-71.
13. Bustanovna, I. N. (2024). The Effectiveness of the Use of the Drug "Proroot MTA" in the Therapeutic and Surgical Treatment of Periodontitis. International Journal of Scientific Trends, 3(3), 72-75.
14. Bustanovna, P. I. N. (2024). Research of the Structure of Somatic Pathology in Patients with Aphthous Stomatitis. International Journal of Scientific Trends, 3(3), 51-55.
15. Bustanovna, I. N., & Abdusattor o'g, A. A. A. (2024). Analysis of Errors and Complications in the Use of Endocal Structures Used in Dentistry. International Journal of Scientific Trends, 3(3), 82-86.
16. Bustanovna, I. N. (2024). Complications Arising in the Oral Cavity after Polychemotherapy in Patients with Hemablastoses. International Journal of Scientific Trends, 3(3), 62-66.
17. Bustanovna, I. N., & Sharipovna, N. N. (2023). Research cases in women after menopause clinical and morphological changes in oral organs and their analysis. Journal of biomedicine and practice, 8(3).
18. Bustonovna, I. N., & Sharipovna, N. N. (2023). Essential Factors Of Etiopathogenesis In The Development Of Parodontal Diseases In Post-Menopasis Women. Eurasian Medical Research Periodical, 20, 64-69.
19. Fakhridin, C. H. A. K. K. A. N. O. V., Shokhrub, S. A. M. A. D. O. V., & Nilufar, I. S. L. A. M. O. V. A. (2022). ENDOKANAL PIN-KONSTRUKSIYALARNI ISHLATISHDA ASORATLAR VA XATOLAR TAHLILI. JOURNAL OF BIOMEDICINE AND PRACTICE, 7(1).
20. Очилов, Х. У., & Исламова, Н. Б. (2024). Особенности артикуляции и окклюзии зубных рядов у пациентов с генерализованной формой повышенного стирания. SAMARALI TA'LIM VA BARQAROR INNOVATSIYALAR JURNALI, 2(4), 422-430.
21. Ortikova, N., & Rizaev, J. (2021, May). The Prevalence And Reasons Of Stomatophobia In Children. In E-Conference Globe (pp. 339-341).
22. Ortikova, N. (2023). ANALYSIS OF ANESTHESIA METHODS FOR DENTAL FEAR AND ANXIETY. Центральноеазиатский журнал академических исследований, 1(1), 8-12.

23. Ortikova, N. K. (2023). DENTAL ANXIETY AS A SPECIAL PLACE IN SCIENTIFIC KNOWLEDGE. SCHOLAR, 1(29), 104-112.
24. Исламова, Н. Б. (2024). ПАРОДОНТ КАСАЛЛИКЛАРИДА ОРГАНИЗМДАГИ УМУМИЙ ЎЗГАРИШЛАРНИ ТАҲЛИЛИ ВА ДАВОЛАШ САМАРАДОРЛИГИНИ ТАКОМИЛЛАШТИРИШ. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 43(7), 18-22.
25. Islamova, N. B., & Chakkonov, F. K. (2021). Changes in the tissues and organs of the mouth in endocrine diseases. Current Issues in Dentistry, 320-326.
26. Исламова, Н. Б., & Ислотов, Л. Б. (2021). Особенности развития и течения заболеваний полости рта при эндокринной патологии. ББК, 56, 76.
27. Исламова, Н. Б., & Назарова, Н. Ш. (2023). СУРУНКАЛИ ТАРҚАЛГАН ПАРОДОНТИТ БИЛАН КАСАЛЛАНГАН ПОСТМЕНОПАУЗА ДАВРИДАГИ АЁЛЛАРНИНГ ПАРОДОНТ ТЎҚИМАСИНИНГ ДАВОЛАШ САМАРАДОРЛИГИ ОШИРИШ. ЖУРНАЛ СТОМАТОЛОГИИ И КРАНИОФАЦИАЛЬНЫХ ИССЛЕДОВАНИЙ, 4(2).
28. Исламова, Н. Б. (2024). ПАРОДОНТИТ КАСАЛЛИГИДА ОРГАНИЗМДАГИ УМУМИЙ ВА МАҲАЛЛИЙ ЎЗГАРГАН КЎРСАТКИЧЛАРНИНГ ТАҲЛИЛИ. Журнал гуманитарных и естественных наук, (8), 23-27.
29. Islamova, N. B., & Sh, N. N. (2023, May). STUDY OF CHANGES IN PERIODONTAL DISEASES IN POSTMENOPAUSAL WOMEN. In Conferences (pp. 15-17).
30. Исламова, Н. Б., & Назарова, Н. Ш. (2023, May). Совершенствование диагностики и лечения хронического генерализованного пародонтита у женщин в период постменопаузы. In Conferences (pp. 13-15).
31. Islamova, N. B., & Nazarova, N. S. (2023). IMPROVING THE DIAGNOSIS AND TREATMENT OF CHRONIC GENERALIZED PERIODONTITIS IN POSTMENOPAUSAL WOMEN. Conferences.
32. Исламова, Н. Б. (2023). Гемодинамика тканей пародонта зубов по данным реопародонтографии.
33. Исламова, Н. Б., & Назарова, Н. Ш. (2023). МЕТОДЫ ИССЛЕДОВАНИЯ ЗАБОЛЕВАНИЙ ПАРОДОНТА У ЖЕНЩИН, НАХОДЯЩИХСЯ В ПЕРИОДЕ ПОСТМЕНОПАУЗЫ. In АКТУАЛЬНЫЕ ВОПРОСЫ СТОМАТОЛОГИИ (pp. 334-338).
34. Исламова, Н. Б. (2024). Complications Arising in the Oral Cavity after Polychemotherapy in Patients with Hemablastosis. International Journal of Scientific Trends, 3(3), 76-81.
35. Islamova, N. B. (2022). CHANGES IN PERIODONTAL TISSUES IN THE POSTMENOPAUSAL PERIOD. In Стоматология-наука и практика, перспективы развития (pp. 240-241).
36. Назарова, Н., & Исламова, Н. (2022). Этиопатогенетические факторы развития заболеваний пародонта у женщин в периоде постменопаузы. Профилактическая медицина и здоровье, 1(1), 55-63.
37. Иргашев, Ш. Х., & Исламова, Н. Б. (2021). Применение и эффективность энтеросгеля при лечении генерализованного пародонтита. In Актуальные вопросы стоматологии (pp. 305-310).

38. Иргашев, Ш., Норбутаев, А., & Исламова, Н. (2020). Эффективность энтеросгеля при лечении генерализованного пародонтита у ликвидаторов последствий аварии на черновобильской АЭС. Общество и инновации, 1(1/S), 656-663.
39. Исламова, Н. Б. (2016). Сравнительная оценка противовоспалительных цитокинов крови в развитии заболеваний полости рта при гипотиреозе. Наука в современном мире: теория и практика, (1), 41-44.
40. Исламова, Н. Б., Шамсиев, Р. А., Шомуродова, Х. Р., & Ахмедова, Ф. А. (2014). Состояние кристаллообразующей функции слюны при различных патологиях. In Молодежь и медицинская наука в XXI веке (pp. 470-471).
41. Исламова, Н., & Чакконов, Ф. (2020). Роль продуктов перекисного окисления липидов и противовоспалительных цитокинов крови в развитии заболеваний полости рта при гипотиреозе. Общество и инновации, 1(1/s), 577-582.
42. Исламова, Н., Хаджиметов, А., & Шакиров, Ш. (2015). Роль продуктов перекисного окисления липидов и противовоспалительных цитокинов крови в развитии заболеваний полости рта при гипотиреозе. Журнал проблемы биологии и медицины, (1 (82)), 41-44.
43. Исламова, Н. Б., & Чакконов, Ф. Х. (2021). Изменения в тканях и органах рта при эндокринных заболеваниях. In Актуальные вопросы стоматологии (pp. 320-326).
44. Nazarova, N. S., & Islomova, N. B. (2022). postmenopauza davridagi ayollarda stomatologik kasalliklarining klinik va mikrobiologik ko 'rsatmalari va mexanizmlari. Журнал" Медицина и инновации", (2), 204-211.
45. Nazarova, N. S., & Islomova, N. B. (2022). postmenopauza davridagi ayollarda stomatologik kasalliklarining klinik va mikrobiologik ko 'rsatmalari va mexanizmlari. Журнал" Медицина и инновации", (2), 204-211.
46. Sulaymonova, Z. Z., & Islamova, N. B. (2023, May). TAKING IMPRESSIONS IN THE ORAL CAVITY AND THEIR REDUCTION. In Conferences (pp. 21-23).
47. Sharipovna, N. N., & Bustonovna, I. N. (2022). Etiopatogenetic factors in the development of parodontal diseases in post-menopasis women. The american journal of medical sciences and pharmaceutical research, 4(09).
48. Sarimsokovich, G. M. (2023). LATEST METHODS OF STUDY OF PERIODONTAL DISEASE IN WOMEN. European International Journal of Multidisciplinary Research and Management Studies, 3(10), 242-250.
49. Sarimsokovich, G. M. (2023). MODERN METHODS OF RESEARCH OF PERIODONTAL DISEASES IN WOMEN. Open Access Repository, 4(2), 632-639.
50. Sarimsokovich, G. M. (2023, May). CLINICAL EFFICIENCY OF THE GUIDED REGENERATION METHOD OF TISSUE IN THE TREATMENT OF CHRONIC PERIODONTITIS OF THE MIDDLE DEGREE. In Conferences (pp. 11-13).
51. Sarimsokovich, G. M. (2024). METHODS FOR STUDYING PERIODONTAL DISEASES IN WOMEN IN THE POSTMENOPAUSE PERIOD. Лучшие интеллектуальные исследования, 18(4), 36-42.
52. Sarimsokovich, G. M. (2024). IMPROVING THE EFFECTIVENESS OF PREVENTION AND TREATMENT OF INFECTIOUS PROCESSES OF THE ORAL CAVITY IN

PEOPLE USING DENTAL PROSTHETICS. Лучшие интеллектуальные исследования, 18(4), 31-35.

53. Содикова, Ш. А., & Исламова, Н. Б. (2021). Оптимизация лечебно-профилактических мероприятий при заболеваниях пародонта беременных женщин с железодефицитной анемией. In Актуальные вопросы стоматологии (pp. 434-440).
54. Sharipovna, N. N., & Bustanovna, I. N. (2022). Assessment of clinical and morphological changes in the oral organs and tissues in post-menopause women. Frontline medical sciences and pharmaceutical journal, 2(05), 60-67.