

Perception of parents or guardians of children regarding bruxism in the State of Amazonas

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Abstract

Purpose: The objective of this study was to evaluate the knowledge of parents or guardians about bruxism in children who seek care at Pediatric Dentistry Clinics at the State Polyclinic of the State of Amazonas.

Methods: Participation in the study was authorized through the Free and Informed Consent Form. This is a cross-sectional, population-based, observational, randomized, stratified, representative study of parents or guardians of children aged 3 to 12 years. Data were collected from 312 questionnaires.

Results: The prevalence of possible sleep bruxism was found in 11.9% of the parents or guardians and 21.5% of the children. 58.7% said they did not know what bruxism is. Among those who reported knowing that it was only 36.9%, they correlated bruxism with the habit of grinding or clenching their teeth. 74.4% They could not say etiology. Only 8.3% sought help or treatment. Only 5.4% sought a dentist for treatment. 64.1% Have stated that bruxism can affect people's health. Yet 59.3% could not say what it can affect. 88.5% said they would like more information about bruxism.

Conclusion: The number of people who are not aware of sleep bruxism and its etiology is significant. The apparent lack of awareness about bruxism leads them to underestimate the condition, and may lead families not to seek appropriate treatment, increasing the underdiagnosis of the condition.

Introduction

Working with children in health and needing subjective information to get as close to a correct diagnosis requires maximum collaboration from the self-report of the parents or guardians of the minor.

In many cases, behavioral aspects reported by parents contribute to the investigation to close the diagnosis. In pediatric dentistry practice, the anamnesis brings relevant information that is complementary and will corroborate the diagnosis and future proposals for individualized treatments for the profile of each child.

In view of these aspects, the level of knowledge of parents or guardians regarding diseases with subjective and behavioral components that may have implications for the family's daily life, such as bruxism, is of paramount importance to reduce the underdiagnosis of this condition.

The term bruxism originates from the Greek word BRYCHEIN, which means clenching or grinding the teeth and the suffix MANIA, which means compulsion. It was mentioned in the dental literature for the first time in 1907 by the French researchers Marie and Pietkiewicz, [1]. Since then, the term has been used in the dental literature and is currently an increasingly frequent phenomenon in dental offices, thus arousing more interest to the dentist.

A diagnostic classification was defined for clinical and research purposes since knowledge about the clinical aspects of bruxism is still fragmented due to the different diagnostic criteria used in most studies

[2,3].

This condition has two distinct circadian cycles, sleep (sleep bruxism - SB) or wakefulness (wake bruxism - WB) [2]. In waking bruxism, clenching usually occurs without any sound. Sleep bruxism is characterized by clenching and grinding of the teeth, accompanied by noises [4].

Teeth grinding is classified as eccentric (Eccentric Nocturnal Bruxism), causing wear of the teeth and an increase in muscle volume, while clenching or tapping the teeth in a centric way is the so-called centric bruxism movement and does not cause wear of the teeth [5].

Literature reviews indicate that the prevalence rates of bruxism in children vary widely from 13% to 49% [6,7]. Over the past two decades, the prevalence rate of sleep problems among children in mainland China has increased, significantly affecting two-fifths of school-aged children [6].

The etiology of SB is multifactorial and in children it can be attributed to both systemic and psychological causes. It is usually associated with microarousals [7] and is regulated by the central nervous system [8,9]. Studies show that this movement disorder in children may be associated with the presence of deleterious oral habits [10-12], as well as with the conditions and environment in which the child sleeps [13], with respiratory disorders related to sleep [14,15] and to high levels of anxiety, neuroticism, responsibility and stress [11]. However, there is no consensus in the literature regarding the role that each mentioned factor plays in the development or worsening of the problem [16].

Among the local factors, malocclusions, occlusal trauma, premature contact, root resorption, presence of dental calculus, dentigerous cysts, missing teeth, excess restorative material and muscle tension could be observed [17,18]. However, some authors observed that the presence of malocclusion does not increase the probability of the child developing bruxism [19,20,21].

Systemically, nutritional and vitamin deficiencies, allergies, intestinal parasites, otorhinolaryngological disorders, gastrointestinal disorders, endocrine disorders, cerebral palsy, Down syndrome and mental deficiency may be related to the development of the habit [24,26-28]. Di Francesco *et al.* [29] observed a positive association between breathing problems during sleep, such as airway obstruction due to tonsillar hyperplasia and the presence of bruxism in children. The authors reported that, after adenoid and tonsil surgery, the children showed a significant improvement in their bruxism.

Emotional tension, family problems, existential crises, state of anxiety, depression, fear and hostility, children in the self-affirmation phase, school tests or even the practice of competitive sports and championships can act as factors of psychological and occupational origin for the triggering of sleep bruxism [22,28-31]. According to Restrepo *et al.* [32], anxiety has been the most studied emotional factor in children. Several authors claim that, despite having a multifactorial origin, cognitive and behavioral factors are the main predisposing factors of this disease [32,33,34]. Associations between sleep bruxism and childhood general anxiety have been reported in many studies based on maternal reports and

objective assessments. Studies state that separation anxiety in preschool children doubles the risk of developing manifestations of sleep bruxism [35], being a risk factor for this condition.

Still regarding anxiety, according to a systematic review, it can be stated that there is a relationship between COVID-19 and a higher incidence of temporomandibular disorders, both in adults and children. The state of uncertainty in which people lived during the pandemic, especially due to stress, generated muscle hyperactivity, worsening of bruxism and causal and symptomatic factors of temporomandibular disorders [36].

The classification and probability of validity of the diagnosis of bruxism can vary from possible to definitive, based on the different approaches that can be adopted in the investigation of this disorder, such as, for example, self-report and/or report, through interviews and/or questionnaires, clinical examination, electromyography and polysomnography (PSG) [2,14]. Although polysomnography is the gold standard for confirming the diagnosis of bruxism in adults, there is a lack of evidence to recommend this test for diagnosing sleep bruxism in children [32]. Its use becomes unfeasible in epidemiological studies with representative samples since it is complex and costly [2,12,14,35]. In addition, a previous study demonstrated that the report of parents or guardians of grinding and/or clenching of their children's teeth coincided with polysomnography in more than 83% of cases, when parents/guardians are more aware and informed about the signs and symptoms of sleep bruxism, reinforcing the need to improve information and understanding of parents on the subject [34].

The most frequent symptoms of sleep bruxism in children are headaches and muscle pain, drowsiness, tiredness, hyperactivity, difficulty concentrating, agitated behavior, aggressiveness, attention deficit and anxiety [37,38], factors that can lead to a negative impact in the quality of life of these individuals.

Anamnesis carried out in the office and a simple observation made by parents or guardians are not enough to identify sleep disorders, justifying the use of other assessment tools or exploration of systems, such as specific questionnaires that highlight sleep disorders. The sleep habits questionnaire is a self-administered assessment tool that can reliably and validly identify sleep disorder symptoms, being low cost and easy to apply. Thus, the questionnaire is an important instrument that can contribute to the treatment of SB and even to its prevention through guidance.

The pediatrician, as the first health professional to establish contact with the child, has an important role in the diagnosis of this disorder, acting effectively in recognizing the problem and referring it to other health professionals, such as pediatric dentists and psychologists. Pediatricians and pediatric dentists must be able to understand the possible causes, clinical characteristics, signs and symptoms of bruxism in childhood, identifying the problem as early as possible. Once the psychological origin is diagnosed, it is necessary to refer the patient to a specialized professional in order to provide an effective and lasting treatment. It is essential that there is a multidisciplinary interaction in the treatment of bruxism in children in order to monitor the growth and development of the child, promoting health.

Objetives

To evaluate the knowledge of parents/guardians regarding bruxism for children who seek care at the Pediatric Dentistry Clinics at the Dental Polyclinic of the State University of Amazonas (UEA).

Specific objectives

- a. Assess the prevalence of possible self-reported bruxism in children;
- b. Prevalence of probable self-reported parental sleep bruxism;
- c. Identify the knowledge of parents/guardians about bruxism and its implications in the family routine;
- d. Identify the factors involved with bruxism from the perspective of parents/guardians;
- e. Identify the parents' perception of their child's sleep characteristics;
- f. Correlate the probable prevalence of bruxism with the child's sleep quality;
- g. Identify whether parents seek help to treat bruxism and what kind of help they seek;
- h. Evaluate parents' perception of the impact of bruxism on the quality of life.

Methodology

In addition to the clinical consultation in the dental chair, in many cases we can also use the waiting room as an object for collecting important data to look for possible prevalence, diagnosis and characteristics correlated to pathologies that require subjective factors for analysis, such as bruxism.

In the present study, a measurement instrument was used, developed in the form of a questionnaire with open and closed questions, applied to 312 parents or guardians of children who were attended at the Pediatric Dentistry Clinics at the Dental Polyclinic of the State University of Amazonas (UEA), with the aim of evaluating their knowledge regarding bruxism.

The most commonly used methodology in the study of large populations is the use of questionnaires applied to a partner or family member or, in the case of children, the parent/guardian, considering that sleep bruxism (SB), is a non-functional and involuntary habit. Thus, people are often not aware of the problem and, in the case of children, identification is more difficult, depending on several factors, such as age, frequency and severity of sleep bruxism (SB), since those involved may not report any associated problems such as pain in the jaw muscles, joint pain (temporomandibular joint – TMJ), and headaches.

Ethical aspects

The project was submitted to the Research Ethics Committee of the State University of Amazonas (UEA), having been approved under opinion number 923.737. The parents/guardians of the children treated at the Pediatric Dentistry clinics of the UEA Dental Polyclinic authorized their participation in the study by signing the Free and Informed Consent Form (FICF).

Study Location

The study was carried out in the city of Manaus, AM, in the waiting room of the Pediatric Dentistry clinics of the UEA Dental Polyclinic.

Study design

The present is a population-based cross-sectional observational study with a random, stratified and representative sample of parents or guardians of children aged 3 to 12 years who were undergoing dental treatment at the Pediatric Dentistry clinics of the UEA Dental Polyclinic.

Data were collected from filling out 312 questionnaires with open and closed questions about the knowledge of parents/guardians regarding bruxism.

Inclusion and exclusion criteria

To participate in the present research, children should be in attendance at the Pediatric Dentistry Clinic of the University of the State of Amazonas, accompanied by their parents or guardians who had signed the free and informed consent form. Age less than 3 years and greater than 12 years was adopted as an exclusion criterion. In addition, individuals with no responsible person and inability of the companion to answer the questionnaire were excluded.

If they met the inclusion criteria, parents or guardians were asked to answer the Questionnaire (Attachment), consisting of questions with open and closed questions.

Calibration / Pilot study

A pilot study was carried out with 10 parents/guardians to adapt the interviews and the examiner.

The assessment instrument was a questionnaire already validated and applied in a previous study. Participants in the pilot study were not included in the main study and the instrument used in the pilot did not change.

For data collection, a questionnaire prepared by a team of researchers from the Federal University of Minas Gerais based on the criteria of the American Association of Sleep Medicine was used, and its completion was carried out by parents/guardians without any help, consultation or participation of the examiner or perhaps another family member who was present. At the end of completion, the instrument was immediately delivered to the examiner.

Study variables

Questions in the questionnaire applied to parents/guardians contained objective and discursive questions. Through this tool, the following variables could be removed for analysis in the present study:

- Age range of guardians and children;
- Child's Gender;
- Specific characteristics of children's sleep;

- Quantification of sleep time in hours;
- How the child sleeps; if the child sleeps alone or accompanied;
- Parents' knowledge about bruxism and, if so, the definition of what they think bruxism is;
- If the parent/guardian knows whether he or she suffers from bruxism;
- Etiology of bruxism;
- If the parent/guardian has already sought help, if so, what type of help is sought;
- If the parent/guardian is aware of the consequences of bruxism;
- What kind of alterations (sequelae), can be developed by bruxism.

The answers were grouped in order to facilitate data analysis. Within the sample of 312 parents who answered the questionnaire, the following data were tabulated: frequency of data related to the quality of the child's sleep; parental knowledge about bruxism; whether parents know the etiology of bruxism; Prevalence of probable sleep bruxism by self-report of both parents and children; in cases where the presence of bruxism was reported, what kind of help was sought for treatment; whether parents are aware of the impact of bruxism on the quality of life and; what is the need to know more about the topic.

In the question related to the concept of bruxism, the responses of clenching/grinding the teeth were considered "right" and other answers were considered "wrong."

Results

After analyzing the results obtained, it was possible to verify the prevalence of possible sleep bruxism after self-report of 11.9% of parents or guardians and 21.5% of children seen at the polyclinic (Tables 1 and 2).

Table 1

Results referring to the question regarding the prevalence of possible bruxism in parents or guardians

Prevalence of probable bruxism of parents or guardians	Frequency	Percentage	Valid percentage	Cumulative percentage
YES	37	11.9	11.9	11.9
NO	275	88.1	88.1	100.0
Total	312	100.0	100.0	

Table 2

Results referring to the question regarding the prevalence of possible bruxism in children between 3 and 12 years of age treated at the Pediatric Dentistry Clinic of the Dental Polyclinic- UEA-AM

Prevalence of probable bruxism in children assisted at the pediatric dentistry clinic - UEA-AM	Frequency	Percentage	Valid percentage	Cumulative percentage
YES	67	21.5	21.5	21.5
NO	245	78.5	78.5	100.0
Total	312	100.0	100.0	

Of those interviewed, 58.7% said they did not know what bruxism is (Table 3).

Table 3

Results referring to the question regarding whether parents or guardians know what bruxism is (objective question)

Do you know what bruxism is?	Frequency	Percentage	Valid percentage	Cumulative percentage
YES	129	41.3	41.3	41.3
NO	183	58.7	58.7	100.0
Total	312	100.0	100.0	

For the question that required an open answer related to the concept of bruxism, the teeth clenching/grinding answer was considered “right” and other answers were considered “wrong”. And among those who claimed to know what bruxism is, only 36.9% answered the question correctly (Table 4).

Table 4

Results referring to the question regarding what parents or guardians think bruxism is (discursive question)

Definition of bruxism	Frequency	Percentage	Valid percentage	Cumulative percentage
DO NOT KNOW	176	56.4	56.4	56.4
GRINDING OR CLENCHING TEETH	115	36.9	36.9	93.3
WITCHCRAFT	9	2.9	2.9	96.2
SLEEP DISORDER	2	.6	.6	96.8
HEREDITARY	2	.6	.6	97.4
CHEW GUM	1	.3	.3	97.8
MISSING ENAMEL ON THE TOOTH	1	.3	.3	98.1
AGITATION	1	.3	.3	98.4
TEETH DISCOMFORT	3	1.0	1.0	99.4
SWELLING IN THE MOUTH	1	.3	.3	99.7
CORRODED TEETH	1	.3	.3	100.0
Total	312	100.0	100.0	

Among the responses collected, 2.9% still correlated the definition of bruxism with mystical factors.

With regard to the etiology of bruxism, in the open questioning, 74.4% could not say the cause; 11.9% associated it with stress or anxiety; 3.5% associated it with sleep disorders (insomnia, troubled sleep,); 3.2% to local factors (cavities, poor oral hygiene, poor dental formation); 1.9% linked the origin of bruxism to intestinal parasites and 1.6% related the origin to mystical factors (Table 5).

Table 5
Results referring to the question regarding the etiology of bruxism (discursive question).

Etiology	Frequency	Percentage	Valid percentage	Cumulative percentage
DO NOT KNOW	232	74.4	74.4	74.4
STRESS OR ANXIETY	37	11.9	11.9	86.2
MYSTICAL FACTOR	5	1.6	1.6	87.8
LOCAL FACTOR	10	3.2	3.2	91.0
SLEEP DISORDER	11	3.5	3.5	94.6
INTESTINAL PARASITES	6	1.9	1.9	96.5
LACK OF CALCIUM	1	.3	.3	96.8
PSYCHOLOGICAL PROBLEM	2	.6	.6	97.4
HEREDITARY	2	.6	.6	98.1
AGITATION	1	.3	.3	98.4
NERVOUS TICK	3	1.0	1.0	99.4
ANGER	1	.3	.3	99.7
CHEW GUM	1	.3	.3	100.0
Total	312	100,0	100,0	

Of those who answered yes to the question about the presence of probable sleep bruxism, both for those responsible for them and for the children, only 8.3% of the interviewees sought help or treatment. And among those who did, only 5.4% sought professional help from a dentist (Tables 6 and 7).

Table 6
Results referring to the question regarding whether parents or guardians sought help for bruxism

Sought help?	Frequency	Percentage	Valid percentage	Cumulative percentage
YES	26	8.3	8.3	8.3
NO	286	91.7	91.7	100.0
Total	312	100.0	100.0	

Table 7
Results referring to the question regarding what help parents or guardians sought

What help did you seek?	Frequency	Percentage	Valid percentage	Cumulative percentage
DID NOT SEEK	290	92.9	92.9	92.9
DENTIST	17	5.4	5.4	98.4
DOCTOR	3	1.0	1.0	99.4
SPIRITUAL HELP	1	.3	.3	99.7
SPEECH THERAPIST	1	.3	.3	100.0
Total	312	100.0	100.0	

Regarding the quality of life, 64.1% answered that bruxism can affect people's health. However, 59.3% were unable to answer. Among the possible consequences caused by bruxism, 24% of respondents said it affects the teeth, 5.8% said insomnia, 3.5% related it to psychological disorders and 3.2% associated it with pain (Tables 8 and 9).

Table 8
Results referring to the question regarding whether parents or guardians think that bruxism can affect people's health

Can bruxism affect people's health?	Frequency	Percentage	Valid percentage	Cumulative percentage
YES	200	64.1	64.1	64.1
NO	111	35.6	35.6	99.7
DID NOT RESPOND	1	.3	.3	100.0
Total	312	100.0	100.0	

Table 9
Results referring to the question regarding what changes can happen to health

Change in health	Frequency	Percentage	Valid percentage	Cumulative percentage
DON`T KNOW	185	59.3	59.3	59.3
AFFECTS THE TEETH	75	24.0	24.0	83.3
PAIN	10	3.2	3.2	86.5
INSOMNIA	18	5.8	5.8	92.3
PSYCHOLOGICAL	11	3.5	3.5	95.8
DIFFICULTY WITH EATING	3	1.0	1.0	96.8
SPIRITUAL	1	.3	.3	97.1
LOW SELF ESTEEM	2	.6	.6	97.8
CLENCH THE TEETH	1	.3	.3	98.1
CORRODE THE TEETH	3	1.0	1.0	99.0
SENSITIVITY IN THE TEETH	1	.3	.3	99.4
RESPIRATORY PROBLEM	1	.3	.3	99.7
DENTAL MOBILITY	1	.3	.3	100.0
Total	312	100.0	100.0	

Regarding the data related to the quality of sleep of the researched children with possible sleep bruxism, after self-reporting by the parents, the majority of 80.5% consider that the child sleeps well (Table 10).

Table 10

Cross-data results between the prevalence of probable bruxism in children with sleep quality reported by parents or guardians

DO YOU CONSIDER THAT YOUR CHILD SLEEPS WELL EVERY DAY?	DOES YOUR CHILD HAVE BRUXISM?		Total
	YES	NO	
YES	54	217	271
NO	13	28	41
Total	67	245	312

Among children with probable sleep bruxism after parental self-report, 56.7% answered that the child has restless sleep (Table 11).

Table 11
Cross-data results between the prevalence of possible sleep bruxism and restless sleep

DOES YOUR CHILD USUALLY SLEEP AGITATED	DOES YOUR CHILD HAVE BRUXISM?		Total
	YES	NO	
YES	38	118	156
NO	29	127	156
Total	67	245	312

Still regarding the quality of sleep of children with possible sleep bruxism, 88% of parents reported that children do not sleep alone in the bedroom (Table 12).

Table 12
Cross-data results between the prevalence of possible sleep bruxism and whether the child sleeps accompanied

DOES YOUR CHILD SLEEP ALONE IN THE ROOM?	DOES YOUR CHILD HAVE BRUXISM?		Total
	YES	NO	
YES	8	65	73
NO	59	180	239
Total	67	245	312

It was found that 88.5% of parents or guardians would like more information about bruxism (Table 13).

Table 13
Results referring to the question regarding whether parents or guardians would like more information about bruxism?

Would you like more information about bruxism?	Frequency	Percentage	Valid percentage	Cumulative percentage
YES	276	88.5	88.5	88.5
NO	36	11.5	11.5	100.0
Total	312	100.0	100.0	

Discussion

In the present research, 58.7% of the selected sample claimed to know what bruxism is when they answered objective questions (yes or no). However, when questioned in open questions, only 36.9% correlated bruxism with the habit of grinding or clenching the teeth. A similar pattern was observed in the question about the etiology of bruxism, with 74.4% of parents or guardians unable to answer, demonstrating insecurity on the part of the interviewees.

The high percentage of disconnected information is worrisome since the diagnosis of sleep bruxism in children is often based only on the parents/caregivers' report about the children's teeth grinding sounds during sleep, which makes it, evidently, more accessible, due to the lower cost, and feasible compared to polysomnography [39, 40].

The lack of standardization of the question used in surveys based on parents' reports may contribute to uncertainties in the diagnosis of sleep bruxism. Two systematic reviews on parafunction in children report a lack of methodologically appropriate studies to clarify the prevalence and factors associated with sleep bruxism in children [40, 42]. Thus, a divergence of results is observed, making comparisons between studies difficult, especially considering the characteristics of frequency and time of SB episodes in children. Certainly, these aspects may contribute to the varied estimate of the prevalence of SB in childhood presented by the current literature (from 3.5 to 40.6%), although other factors may also be involved [42, 43, 44].

In the present study, the prevalence of probable sleep bruxism (SB) was analyzed both in parents or guardians and in children treated at the dental polyclinic of the University of the State of Amazonas (UEA). Parents' reports were adopted as a determining criterion for the presence of bruxism among children and parents or guardians, in line with the methodology of other studies [6, 35, 45, 46, 47].

In the present study, the prevalence of bruxism was observed in 11.9% of parents or guardians and 21.5% of children treated at the polyclinic. Although a hereditary predisposition is suggested [48], there was no statistically significant association between bruxism in parents and children in the present research sample.

There is a range of different results regarding the prevalence of sleep bruxism, with a variation from 9–49% [6, 49–56]. Although there are many works on the prevalence of sleep problems among children, the results vary depending on the study design, population, area and sample size. For example, in 2001, a study with Chinese children found a prevalence of 19% of sleep bruxism [49], while 20 years later, another study points to a result of 9% after a meta-analysis and systematic review also in the Chinese population [6].

Parents' reports about the noise resulting from their children's sleep bruxism can be an important complaint to the dentist or pediatric dentist, indicating the need for a deeper investigation into the children's daytime orofacial habits and sleep behavior. Identifying the factors associated with bruxism can contribute to the identification of other pathologies and to directing the etiology of the problem. As a result, it will be possible to guide parents and treat the patient in a multidisciplinary way, aiming at improving the child's quality of life and a more effective control of these factors [57, 58].

The current literature shows that sleep bruxism may have a multifactorial origin and may be related to psychological factors such as anxiety, stress and hypervigilance [59, 60], and physiological sleep reactivity, characterized by awakenings with autonomic activity and/or events such as sleep apnea/hypopnea [61, 62].

After analyzing the questionnaires applied in the present study regarding the etiology, it was observed that, in open questions, 74.4% could not say the cause; 11.9% associated it with stress or anxiety; 3.5% associated it with sleep disorders (insomnia, disturbed sleep); 3.2% with local factors such as caries, poor oral hygiene or poor dental formation; 1.9% related the origin of bruxism to intestinal parasites; and 1.6% related the origin to mystical factors.

According to Soares *et al.* [63], sleep disorders, in addition to being underdiagnosed by qualified professionals, are often not given due importance by the children's parents who are unaware or do not believe that sleep disorders are a pathology that must be investigated and treated.

Serra-Negra *et al.* [64], considering the problems triggered in the stomatognathic system by long-term bruxism, believe that the treatment carried out in childhood may be able to avoid damage to an individual's health in adult life. Thus, the importance of awareness and knowledge of parents about SB is highlighted. Of those who answered yes to the question regarding the presence of probable sleep bruxism in the present study, both the guardians and the children, only 8.3% of the interviewees sought help or treatment. And among those who sought help, only 5.4% sought professional help from a dentist.

Regarding the quality of life of patients with bruxism, 64.1% answered that this parafunctional habit can affect people's health. However, 59.3% could not say what it might affect. Among the possible consequences caused by bruxism, 24% of respondents said it affects the teeth, 5.8% said insomnia, 3.5% related it to psychological disorders and 3.2% associated it with pain.

Bruxism in children can have several consequences, such as: wear and/or tooth fractures, sensitivity/pain in the teeth, sensitivity to palpation in the masticatory muscles, tooth mobility, damage to the periodontal ligament and periodontium, hypercementosis, pulpitis, pulp necrosis, recession and gingival inflammation, alveolar bone resorption, non-carious cervical lesions (abfraction lesions), masticatory muscle hypertrophy, tinnitus, headache and symptoms of temporomandibular disorders [65, 66].

Regarding the data related to the quality of children's sleep, there was a disagreement in the perception of the parents, and of those who answered yes to the presence of probable sleep bruxism, the majority of 80.5% consider that the child sleeps well. However, in the same questionnaire, 56.7% answered that the child has restless sleep. A similar result was observed in a recent study regarding the sleep characteristics of children and adolescents aged 4 to 15 years carried out in Brazil, in which it was found that more than half of the parents/guardians reported that children with restless sleep also had possible sleep bruxism (56%) [46]. Still, regarding the quality of sleep of children with possible sleep bruxism, 88% of parents reported that minors do not sleep alone in the bedroom, which can validate the diagnosis of possible sleep bruxism since the guardian closely monitors the quality of this child's sleep.

The present study also evaluated the perception of parents or guardians about the consequences of this disorder in the lives of children and, although 64.1% believe that the condition has repercussions on people's health, the majority of 59.3% could not say what type of changes can happen, and 88.5% would like to receive more information regarding bruxism. From the above, it is clear that most

parents/guardians are unaware of the possible causes and consequences of SB, justifying the importance and need for clarification on this parafunction. Underdiagnosis by parents reduces the possibilities of making an early diagnosis, corroborating the deleterious effects of the stomatognathic system that bruxism can bring to adult life.

The need to direct research on the parafunction aimed at the children's universe is highlighted, considering the reduced number of works on bruxism in this population. These data will contribute to develop educational strategies for parents, anamnesis questions and clinical procedures, seeking to reduce the underdiagnosis of this pathology that requires subjective information reported by parents during clinical consultations.

In view of these aspects, the level of knowledge of parents/guardians regarding diseases with subjective and behavioral components that may have implications for the family's daily life, such as bruxism, is of paramount importance to reduce the underdiagnosis of this condition. It is up to dentists, especially pediatric dentists, to also play an educational role, disseminating and guiding parents with relevant instructions on bruxism in children.

Conclusion

By analyzing the results obtained in the present study, it can be concluded that there is a significant number of parents or guardians who report not knowing what sleep bruxism (SB) is. Although some claim to know what SB is, in objective questions, when analyzing the open questions, it became clear that there are many distorted concepts that need to be clarified to the target audience of the research. Additionally, it is suggested that parents or guardians are unaware of the possible etiologies related to SB, negatively influencing the way the parafunction is viewed from the perspective of parents or guardians. The apparent lack of awareness of parents or guardians regarding SB leads them to underestimate the condition and not seek adequate treatment.

Declarations

Disclosure Statement: The authors have no conflicts of interest to disclose.

Ethics approval statement

The research was carried out in line with Research Ethics Committee of the State University of Amazonas (UEA), having been approved under opinion number 923.737.

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Author Contributions

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by Amanda Craveiro Carvalho Dib, André Luiz Tannus Dutra, Saul Martins Paiva and Junia Maria Serra-Negra. The first draft of the manuscript was written by Marília Pacífico Lucisano and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

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