IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 17, Issue 01 Ver. VII January. (2018), PP 13-18
www.iosrjournals.org

Somatization, Pain Sites And Pain on Awakening in The Morning In Sleep, Diurnal And Mixed Bruxers With Craniomandibular Disorders

*Omar Franklin Molina[1] Bruno Ricardo Simião[2] Sônia Maria Paiva Torres[2]
Marcus Sobreira Peixoto[1,] Maria A Sobreiro[3] Fausto F da Silva Junior[4]
Fabio Luiz Soares[5]

[1]*Department of Orofacial Pain, UNIRG University, School of Dentistry, Gurupi-TO, Brazil.*
[2]*Department of Prosthodontics, UNIRG School of Dentistry, Gurupi-TO, Brazil*
[3]*Department of Anatomy, UNIRG University, Gurupu-TO, Brazil.*
[4]*Department of Pediatric Dentistry, UNIRG University, Gurupi-TO, Brazil.*
[5]*Department of Endodontics, UNIRG University, School of Dentistry, Gurupi-TO, Brazil.This study was carried out at UNIRG University, School of Dentistry. Brazil*
Corresponding Author: Omar Franklin Molina

Abstract
Introduction: *Sleep bruxism is a complex psychopathological disorder causing pain in many anatomic structures of the stomatognathic system.*
Aim:*Evaluate frequencies of painful sites on awakening in the morning, somatization scores and a relationship between somatization and painful sites in sleep bruxers.*
Methods:*Comprehensive questionnaires, clinical examination, self-report, pain history, clinical signs and symptoms, and the Rief-Hiller Scale for somatization were used to evaluate 325 bruxers and temporomandibular disorder patients in which 103, 40, and 182 demonstrated sleep, daytime and mixed bruxism, respectively. Forty-eight non bruxers without temporomandibular disorders were used as a control group.Criteria to classify bruxers as diurnal, nocturnal and mixed, were used. Data were analyzed using Kruskal-Wallis´s and Dunn´s,Pearson and Fisher´s exact statistics.*
Results:*Age was not statistically different in the four subgroups. Females predominated in the four subgroups: Sleep bruxers=92.2%; diurnal bruxers= 82.5%; mixed bruxers=93.4%, and control non bruxers non temporomandibular disorders=64.6%. Sleep bruxers demonstrated higher scores in painful sites as compared with diurnal bruxers ($p<0.001$), and with controls non bruxers, non temporomandibular disorders subjects ($p<0.001$). Sleep bruxers demonstrated higher scores on pain on awakening in the morning as compared with diurnal bruxers ($p<0.001$), and with controls non bruxers non temporomandibular disorders subjects ($p<0.001$). Scores in somatization were higher and significantly different in the four groups ($p=0.0001$): Sleep bruxers versus diurnal bruxers ($p<0.05$); sleep bruxers versus controls non bruxers non temporomandibular disorders ($p<0.001$); diurnal bruxers versus mixed bruxers ($p<0.001$); mixed bruxers versus non bruxers non temporomandibular disorder subjects ($p<0.001$). The correlation between painful sites on awakening and scores in somatization was positive and statistically significant in sleep bruxers($p<0.001$) and in mixed bruxers ($p<0.0001$).*
Conclusion:*A higher frequency of painful sites on awakening in the morning was found in sleep bruxers. Most common painful areas on awakening in the morning were the face, temporomandibular joints, head, neck and teeth. There was a significant association between somatization and painful sites on awakening in sleep bruxers.*
Keywords: *Pain. Somatization. Sleep Bruxism. Craniomandibular Disorders.*

Date of Submission: 26-12-2017 Date of acceptance:16-01-2018

I. Introduction

Bruxing Behavior (BB) is a common pathological disorder defined as a set of nonmasticatory and nonfunctional jaw movements related with clenching and grinding the teeth repetitively and non voluntarily that occursmostly unconsciously without functional purposes[1].Daytime bruxism (DB) is commonly a semi voluntary clenching activity also known as awake or diurnal bruxism[2]. Sleep bruxism (SB), occurs frequently and is defined as a stereotyped oromandibular behavior and movement disorder occurring during sleep, characterized by teeth grinding and clenching and classified as a sleep related movement disorder[3]. Temporomandibular

disorders (TMDs) is a collective term used to described a group of associated musculoskeletal disorders in which pain in the pre auricular are, temporomandibular joints (TMJs), masticatory muscles, soreness, limitation of jaw movements and various types of joint noises are usually reported by patients[4]. Somatization refers to the tendency to experience stress and anxiety in the form of multiple physical symptoms or bodily complaints usually associated with psychic conflicts of which the patient is not aware and thus, is not able and/or willing to report. Patients with somatization are not capable of integrating the psychological and physical aspects of an experience and thus, the disorder involves an alteration of the perception of the self and is considered a form of dissociation[5]. Psychological problems affect up to 30% of patients presenting to general practitioners. Somatization patients are those presenting with high levels of functional somatic distress and usually present to the clinician with pains in multiple organs or systems including the musculoskeletal one[6].Somatization patients usually present to the clinician with numerous somatic complaints including headaches, back pain, chronic tiredness, musculoskeletal disorders, and a persistent conviction of being ill[7]. TMDs patients presenting with BB may also complain of several somatic disorders and comorbidities that may explain in some way the presence of headache, sleep bruxism and pain in areas adjacent and distant to the masticatory system[3]. There is evidence of a positive correlation between sleep bruxism, severe chronic orofacial pain and the presence of nonspecific physical symptoms in TMD patients, indicating somatization[8]. Although it has been stated that sleep and diurnal bruxism are two different phenomena, there is scarcity of clinical and psychological studies to differentiate these two clinical entities. Thus, this study was designed to:

1.Evaluate pain sites and pain on awakening in sleep bruxers;
2.Assess somatization scores in sleep bruxers and controls;
3.Evaluate a possible correlation between painful sites on awakening
andsomatization scores in sleep bruxers.

II. Material And Methods

2.1 Sample

The clinical charts of all individuals presenting with BB and TMDs referred to the department of Orofacial pain and TMDs in the period January 2012–June 2017, were retrieved, evaluated retrospectivelyand comprehensively by a specialist in the field of orofacial pains (OFM). Before obtaining an accurate diagnosis and establishing a treatment plan, every clinical examination followed a standardized procedure in which the examiner followed rigorously the principles of the Helsinki Declaration: He informed the patient that there was no risk when clinical evaluation was carried out and comprehensive questionnaires were used, that any physical or psychological discomfort warranted the discontinuity of the evaluation, that a comprehensive assessment was mandatory in order to obtain accurate diagnosis and establish a coherent treatment plan. Individuals were also informed that the principal examiner was an experienced and scientifically qualified person, that there were potential scientific and clinical benefits if data were used for research purposes.

Patients were also informed that their clinical, social and demographic data could be used for research purposes and that anonymity was warranted for all patients. Patients were also informed that they were not being subjected to an experimental study, but that they needed to be evaluated comprehensively to warrant data accuracy. Finally, patients signed an informed consent. Thus, a retrospective investigation was conducted in 325 individuals presenting with TMDs and some type of BB. One hundred and three (103), forty (40), and one hundred and eighty two (182), subjects demonstrated TMDs and SB, TMDs and DB, and TMDs and mixed BB, respectively. A group of 48 subjects presenting no TMDs and no BB was also used as an additional control group. Thus, the experimental group (TMDs and SB=103), was compared to three control subgroups. Sleep bruxers and controls were referred consecutively over the same period of time and were evaluated consecutively and comprehensively not for research purposes but to gather accurate data.Inclusion criteria for TMDs: Presence of at least two of the following signs, symptoms or characteristics: A complaint of pain in the TMJS and/or in the masticatory muscles, patients´ report about difficulties to perform normal jaw movements confirmed by clinical examination, presence of joint sounds during jaw opening and closing, tenderness to palpation of some masticatory muscles and seeking active treatment for a TMD complaint. Inclusion criteria for sleep bruxism: Sleep bruxism was considered as present if the following signs or symptoms were reported: a feeling of tension, stiffness, or fatigue in the temporal or masseter muscle on awakening in the morning, tension, discomfort or pain when opening the mouth on awakening in the morning, patient´s report of jaw locking on awakening in the morning and patient / relative / friend´s report of clenching and grinding the teeth at night in the last two months. Inclusion criteria for awake or diurnal bruxism: Patient´s report of catching himself or herself clenching the teeth frequently or very frequently during the day in the last two months, a feeling of tension, fatigue or stiffness in the masseter muscle during the day, more specifically during eating, biting or speaking. There is evidence that sleep and daytime bruxism may be diagnosed based on self-report using questionnaires and the anamnestic part of a clinical examination[9,10].The presence and severity of both DB and SB can be demonstrated using a comprehensive questionnaire[9].

To evaluate the presence of painful single or multiple sites on awakening in the morning,one item of the comprehensive questionnaire to assess diurnal, nocturnal or mixed bruxism, asks the patient whether he or she presents pain on awakening in the morning occasionally, frequently or very frequently in the following anatomic areas: teeth, mandible, maxilla, head, face, neck, ear, mastoid process, back, shoulder and arms. Thus, the number of painful sites on awakening in the morning couldbe determined accurately. Only those charts including sufficient information about TMDs, SB, DB and somatization scores, were included as clinical data to carry out the current investigation. The Rief and Hiller questionnaire[11],was used to gather information about somatization in bothbruxerswith TMDS and in controls non bruxerswithout TMDs. The third control group (BB- TMDs-), was constituted by all those individuals referred over the same period of time who presented for a clinical evaluation with a specific complaint. However, they did not present with clinical characteristics of BB and TMDs. Exclusion criteria: Individuals presenting with severe psychiatric or behavioral disorders, neuromuscular disease (for instance, Parkinson´s disease, reporting current use of selective serotonin reuptake inhibitors based on patients´ report, those being currently treated for TMDs, or not demonstrating characteristics of DB, TMDs, SB, mixed BB, were excluded from the aforementioned subgroups in the current investigation.

III. Statistical Analysis

Statistical tests deemed to be appropriate in the current study included Kruskal-Wallis statistics plus Dunn´s post hoc multiple comparison test, Fisher´s exact test and Pearson´s correlation test.

IV. Results

The current stud was carried out in a large sample of subjects with sleep bruxism and TMDs (SB+ TMDs+, n=103), diurnal bruxers with TMDs (DB+ TMDs+, n=40), mixed bruxers with TMDs (MB+ TMDs+, n=182), and controls with nor BB neither TMDs (BB- TMDs-, n=48). Females predominated in the four groups. However, statistically significant differences were observed only when the subgroups SB+ TMDs+ versus BB- TMDs- (Fisher´s exact test, $p<0.0001$), DB+ TMDs+ versus MB+ TMDs+ (Fisher´s exact test $p<0.05$), and MB+ TMDs+ versus BB-TMDs- (Fisher´s exact test $p<0.0001$), were contrasted. Age was not significantly different in the four subgroups (Kruskal-Wallis test, $p=0.56$ (See Table 1 for further details). Regarding pain sites in the masticatory system and adjacent to it, there was a statistically and significant difference when the subgroups were compared (Kruskal-Wallis with Dunn´s test $p<0.0001$): SB+ TMDs+ versus DB+ TMDs+, ($p<0.001$); SB+ TMDs+ versus BB- TMDs- ($p<0.001$); DB+ TMDs+ versus MB+ TMDs+ ($p<0.001$), MB+ TMDs+ versus BB- TMDs- ($p<0.001$), and DB+ TMDs+ versus BB-TMDs- ($p<0.05$). As for reports of pain sites on awakening in the morning, the difference was statistically different and significant in the four groups. Kruskal-Wallis statistics with Dunn´s multiple comparison test, $p<0.0001$: SB+ TMDs+ versus DB+ TMDs+ ($p<0.001$); SB+ TMDs+ versus MB+ TMDs+ ($p>0.05$); SB+ TMDs+ versus BB-TMDs- ($p<0.001$); DB+ TMDs+ versus MB+ TMDs+ ($p<0.001$); DB+ TMDs versus BB- TMDs- ($p>0.05$); and MB+ TMDs+ versus BB- TMDs- ($p<0.001$). See Table 2 for additional detailsRegarding somatization scores, Kruskal-Wallis statistics followed by Dunn´s multiple comparison test demonstrated that the difference among the three groups was different and statistically significant ($p<0.0001$): SB+ TMDs+ versus DB+ TMDs+ ($p<0.05$); SB+ TMDs+ versus BB- TMDs- ($p<0.001$); DB+ TMDs+ versus MB+ TMDs+ ($p<0.001$), and MB+ TMDs+ versus BB- TMDs- ($p<0.001$). When the Pearson´s test was used to evaluatecorrelations between painful sites on awakening and somatization scores in different subgroups, such correlations were positive and significant only in the subgroups SB+ TMDs (Pearson´s rho=0.34, $p<0.001$) and MB+ TMDs+ (Pearson´s rho= 0.33, $p<0.0001$). Further details can be observed in Table 3.

V. Discussion

In the current investigation, sleep bruxers demonstrated higher scores in painful sites on awakening in the morning as compared with diurnal bruxers and with those individuals without BB and TMDs. Such data reinforce the idea that sleep bruxism and TMDs occur more frequently in psychosomatic individuals[12]. Such subjects are thought to apply strong forces on most components of the masticatory system, thus resulting in complains of pain on awakening in the morning. In the current investigation sleep bruxers more frequently reported pain in the head, face, TMJs, teeth and cervical areas, on awakening in the morning. Findingsin the current study are congruent with another research[3], indicating that sleep bruxers may have several somatic complaints and comorbidities including migraine, tension-type headache and TMJ pain. Even though researchers[4] in a similar study did not explain if symptoms occurred more frequently in sleep or diurnal bruxers, they asserted that "patients with bruxism and TMDs" presentfrequent complaints including TMJ, cervical, facial and head pain. When sleep bruxism is not treated, toothache, muscle pain, headache, TMJ pain and cervical pain, may be common complaints inbruxers and TMDs patients[13].Anxiety is an intrinsic component of somatization and when not controlled or excessive, may lead to increased and prolonged muscle tension, expressed somatically in the form of sleep bruxism, thus leading to facial, cervical, head and TMJ pain[14].

Patients presenting with complaints of sleep bruxism frequently report symptoms on awakening in the morning including headaches, fatigue in the masticatory muscles and toothaches. Because in the current investigation, sleep bruxersmore frequently complained of pain in multiple sites in the morning, this outcome is in line with one investigation[15] reporting that sleep or awake bruxers complain of some signs and symptoms including headache on awakening, masticatory muscle tiredness and facial pain upon awakening. In the current investigation, sleep and mixed bruxers demonstrated higher scores in somatization and pain in multiple sites on awakening in the morning as compared with diurnal bruxers with TMDs and with those without bruxism and without TMDs. It may be that bruxers with TMDs and somatization do have an unconscious need to cause symptoms in the masticatory system and other areas adjacent and distant to the masticatory system as a mechanism to dissipate or disguise psychic conflict. This assumption is supported by one investigation[16]indicating that there is a significant overlap between TMDs, some pain conditions indicating somatization and BB. Muscular TMDs and bruxism can be part of a generalized pain syndrome occurring more commonly among women than among men. In the current study, sleep bruxers demonstrated pains of musculoskeletal origin on awakening in the morning. Patients with masticatory muscle disorders have complaints beyond the masticatory system, including the head, back and neck areas and there is significant overlap between muscle disorders, fibromyalgia and somatization[16]. Patients with somatization usually complain of numerous symptoms including backaches, headaches and persistent lack of sleep[7]. A recent study[8], reported a significant correlation in sleep bruxersregarding severity of chronic orofacial pain and severity of non specific physical symptoms indicating somatization as such disorders occur frequently in BB individuals with TMDs. Some TMD individuals with BB may present severe levels of somatization[17].Sleep and mixed bruxers with TMDs demonstrated a positive and significant correlation between scores in somatization and scores in painful sites on awakening in the morning. It may be that sleep bruxers with high somatization scores have an unconscious and strong need to cause painful symptoms using intense muscle tension so as to induce increase load on the teeth, muscles, joints and bones. Thus, frequent and sustained muscle tension applied on the teeth (sleep bruxism), is more likely to cause signs and symptoms occurring more frequently on muscles, joints and teeth. In fact, the frequency of muscle and joint pain (facial pain, joint pain and headache), was observed more frequently than the frequency of dental, cervical and bone pain. Strong, sustained and frequent loading during nocturnal bruxing episodes is more likely to be applied by those bruxers with higher scores in somatization. In line with this assumption, one investigation[18] in more frequent sleep bruxers, reported a higher number of pain sites in the face, jaws, head, cervical and back areas.Due to unconscious anxiety and somatization,both psychological disorders may be manifested in many individuals in the form of multiple musculoskeletal complaints[19]. Somatization is closely related to inhibited aggression or frustration.Thus, sleep bruxism may be used by many psychosomatic individuals to vent out aggression and frustration[20]. The intensity of the pathologic changes in the joints and muscles leading to pain in multiple sites is highly dependent on the intensity of the forces used during nocturnal parafunctional activity[20]. Increased muscle tension as a result of somatizationand sleep BB may cause pain in multiple sites including headache, neckache, joint and facial pain[13]. Patients attending neurologic clinics and complaining of pain in multiple sites are usually diurnal or nocturnal bruxers[21]. Increased muscle tension causes some pathophysiological processes which lead to multiple musculoskeletal disorders usually linked to somatic disorders[22].

VI. Conclusions

Data in the current study indicate that both mixed and sleep bruxers presentwith a higher frequency of pain in multiple sites on awakening in the morning in areas adjacent and distant to the masticatory system. Most common painful areas on awakening in the morning in sleep bruxers include the face, TMJs, head, teeth and cervical structures. Sleep bruxers also demonstrated higher scores in somatization than diurnal bruxers and non bruxers without TMDs. The outcome in the current study indicates that there is a close relationship between sleep bruxism, somatization scores and pain in multiple anatomic areas on awakening in the morning. The role of frequency, duration and intensity of forces in sleep bruxersand how they are interrelate with sleep bruxism and somatization scores should be evaluated in future studies. This study provides further support to the notion that sleep and diurnal bruxism are two completely different psychophysiological phenomena. Further studies are needed to replicate the outcome of the current investigation.

References

[1]. Chapotat B, Lin JS, Robin O, Jouvet M. Bruxismdusommeil: Aspectsfundamentaux cliniques. Journal de Parodontologieetimplantologieorale. 1999;18: 277-89.
[2]. Prasad K, Swaminhattan A, Prasad A. A review of current concepts in bruxism-Diagnosis and management. NUJHS 2014; 4: 129-36.
[3]. Lavigne GJ, Khoury S, Abe S, Yamaguchi T, Raphael K. Bruxism, physiology and pathology: an overview for clinicians. J Oral Rehabil 2008; 35: 476-94.
[4]. Seraj B, Ahmadi R,, Mirkarimi M, Ghadimi S, Beheshti M. Temporomandibular disorders and parafunctional habits in children and adolescents. A review. J Dent, Tehran University of Medical Sciences 2009; 6: 37-44.

[5]. Vega BA, Liria AF, Pérez CB. Trauma, dissociation and somatisation: AnnuaryClin Health Psychol 2005; 1: 127-38.
[6]. Merskey H. Pain disorder, hysteria or somatization. Pain Res Manag 2004; 9: 67-72.
[7]. Khouzan HR, Field S. Somatisation disorder: Clinical presentation and treatment in primary care. Hosp Physician 1999; April: 20-25.
[8]. Dias IM, Maia ID, de Mello LM, Leite ICG, Leite FP. Evaluation of correlation among sleep bruxers and depression levels, chronic pain and non specific physical symptoms according to the axis II of the Research Diagnostic Criteria/Temporomandibular Disorders.ESBO 2014; 11: 352-9.
[9]. Molina OF, Santos ZC, Simião BR, Marquezan RF, E Silva ND, Gama KR.A comprehensive method to classify subgroups of bruxers in temporomandibular disorders (TMDs) individuals: Frequency, clinical and psychological implications. RSBO 2013; 10: 11-19.
[10]. Lobbezoo F, Ahlberg J, Glaros A, Winocur E. Bruxism, defined and graded: an international consensus. J Oral Rehabil 2012; 40: 1-6.
[11]. Rief W, Hiller W, Geissner E, Fichter MM. A two- year follow – up study of patients with somatoform disorders. Psychosomatics 1995; 36: 376-86.
[12]. BiondiM, Picardi A. Temporomandibular joint Pain-Dysfunction Syndrome and bruxism: Etiopathogenesis and treatment from a psychosomatic integrative viewpoint. PsychotherPsychosom 1993; 59: 84-89.
[13]. Wieckewicz M, Paradowska-Stolarz A, Mieckiewicz W. Psychosocial aspectrs of bruxism: The most paramount factor influencing "teeth grinding". BioMed Res Int 2014; 2014: 1-7.
[14]. Alves AC, Alchieri JC, Barbosa GA. Bruxism: Masticatory implications and anxiety.ActaOdontLatinoam 2013; 26: 15-22.
[15]. Dantas-Neta N, Laurentino J, E Souza CH, Dos Santos DL,Mendes RF, Prado–Junior R. Prevalence and potential factors associated with probable sleep or awake bruxism and dentin hypersensaitivity in undergraduate students.Rev Odontologia UNESP 204; 43: 245-51.
[16]. Nidal G. Concepts of TMD etiology: Effects on diagnosis and treatment. IOSR JDMS 2016; 15: 25-42.
[17]. Camparis CM, Siqueira JT. Sleep bruxism: Clinical aspects and characterisatics in patients with and without chronic orofacial pain. Oral Surg Oral Med Oral Pathol Oral RadiolEndod 2006; 101: 188-93.
[18]. Kampe T, Tagdae G, Bader G, Edman G, Karlsson S. Reported symptoms and clinical findings in a group of long-standing bruxing behavior. J Oral Rehabil 1997; 24: 581-87.
[19]. Abbas A. Somatization: Diagnosing it sooner through emotion-focused interviewing. J FamPract 2005; 54: 215-24.
[20]. Basic V, Mehulic K. Bruxism: An unsolved problem in dental medicine. ActaStomatol Croat 2004; 38: 93-6.
[21]. Taylor M. Bruxism in the neurologic clinic. PractNeurol 2015; September: 38-40.
[22]. Palmer KT, Calnan M, Wainwright D, Poole J, O´Neill C, Winterbottom A et al. Disabling musculoskeletal pain and its relation to somatization: A community-based postal survey. Occ Med 2005; 55: 612-17.

Table 1: Social and demographic data in sleep bruxers with TMDs (SB+ TMDs), diurnal bruxers with TMDs (DB+ TMDs+), Mixed bruxers with TMDs (MB+ TMDs+), and controls non bruxers and non TMDs (BB- TMDs-).

Subgroups	SB+TMDs+ n=103	DB+TMDs+ n=40	MB+TMDs+ n=182	BB-TMDs- n=48
GENRE	n %	n %	n %	n %
Females	95 92.2	33 82.5	170 93.4	3164.6*
Males	8 7.8	7 17.5	12 6.6	17 35.4
Totals	103 100	40 100	182 100	48 100
Mean Age	35.1	32.0	33.9	35.2**
SD	12.1	11.8	11.8	14.7
Range	17-62	17-64	15-66	17-70

*Fisher´sexacttest: SB+ TMDs+ versus DB+ TMDs+ (p=0.12);SB+ TMDs+ versus MB+ TMDs+ (p=0.81); SB+ TMDs+ versus BB-TMDs- (p<0.0001); DB+ TMDs versus MB+ TMDs+ (p<0.05); MB+ TMDs+ versus BB- TMDs- (p<0.0001).

**Kruskal-Wallis p=0.56

Table 2: Pain sites and pain on awakening in sleep bruxers (SB+ TMDs+), diurnal bruxers (DB+ TMDs+), mixed bruxers (MB+ TMDs+) and controls without bruxism and without TMDs (BB-TMDs-).

Subgroups	SB+TMDs+ n=103	DB+TMDs+ n=40	MB+TMDs+ n=182	BB-TMDs- n=48
Pain sites				
Mean	6.1	3.2	5.8	1.0*
SD	2.7	2.0	2.4	1.6
Range	1-13	0-9	1-14	0-6
Pains on awakening				
Mean	2.0	0.4	2.6	0.08**
SD	1.2	0.6	1.3	0.3
Range	0--5	0--2	0--6	0—2

*Kruskal-Wallis statistics with Dunn´s test p<0.0001:

SB+ TMDs versus MB+ TMDs+ (p>0.05); SB+ TMDs+ versus DB+ TMDs+ (p<0.001); SB+ TMDs+ versus BB-TMDs- (p<0.001); MB+ TMDs+ versus DB+ TMDs+ (p<0.001); MB+ TMDs+ versus BB-TMDs- (p<0.001); DB+ TMDs+ versus BB- TMDs- (p<0.05). **Kruskal-Wallis with Dunn´s test p<0.0001: SB+ TMDs+ versus DB+ TMDs+ (p<0.001); SB+ TMDs+ versus MB+ TMDs + (p>0.05); SB+ TMDs+ versus BB-TMDs- (p<0.001); DB+ TMDs+ versus MB+ TMDs+ (p<0.001); DB+ TMDs+ BB- TMDs- (p>0.05); MB+ TMDs+ versus BB- TMDs- (p<0.001).

Table 3: Means in somatization and correlations between painful sites on awakening versus somatization scores.

Subgroups	SB+TMDs+ n=103	DB+TMDs n=40	MB+TMDs+ N=182	BB-TMDs- N=48
Somatization				
Mean	10.4	6.9	11.5	4.4*
SD	5.4	4.5	5.6	5.0
Range	1-28	0-21	0-28	0-20
Pearson´s Statistics	r=0.34	r=0.06	r=0.33	r=0.10
p-value	0.001	0.72	0.0001	0.55
Significant?	Yes	No	Yes	No

*Kruskal-Wallis statistics with Dunn´s post hoc test p<0.0001:
SB+ TMDs+ versus DB+ TMDs+, p<0.05;
SB+ TMDs+ versus MB+ TMDs+, p>0.05;
SB+ TMDs+ versus BB- TMDs-, p<0.001;
DB+ TMDs+ versus MB+ TMDs+, p<0.001;
DB+ TMDs+ versus BB- TMDs-, p>0.05;
MB+ TMDs+ versus BB-TMDs-, p<0.001.

Omar Franklin Molina "Somatization, Pain Sites And Pain on Awakening in The Morning In Sleep, Diurnal And Mixed Bruxers With Craniomandibular Disorders." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 17, no. 1, 2018, pp. 13-18.