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Characterization of a set of craniomandibular and bruxing behavior subjects with very high scores in dissociation.

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Abstract

Introduction: *Many studies about anxiety, depression, and somatization in craniomandibular disorders and bruxing behavior individuals have been carried out. However, there is paucity of studies about more complex psychological disorder, for instance, dissociation.*

Goals: *Describe scores in depression, somatization, anger-in and dissociation and discuss the clinical and therapeutic implications in a subgroup of craniomandbular disorders an bruxing behavior subjects with very high scores in dissociation.*

Methods: *A retrospective review of clinical charts of 51 subjects with craniomandibular disorders and bruxing behavior and high scores in dissociation, 51 subjects with craniomandibula disorders and low scores in dissociation and 51 no craniomandibular disorders and no bruxing behavior subjects, was carried out. Clinical examination, evaluation of the chief complaint, palpation of muscles and joints, use of comprehensive questionnaires, the Beck Depression Inventory for depression, the Rief and Hiller instrument for somatization , an instrument to evaluate anger inward and the self-reported Dissociative Experience Scale (DES) were used to gather data. Data were analyzed using non parametric statistics (Kruskal-Wallis and Dunn).*

Outcome: *Mean BDI scores in the Craniomandibular Disorders and BB subgroup with very high scores in dissociation, in the Craniomandibular disorders and bruxing behavior subgroup with low scores in dissociation and in the Non Craniomandibular Disorders and Non bruxing behavior subgroup were about 19,2 (SD=8,0, range=4-41). 9,0 (SD=6,7, range=0-26); and 7,2 (SD=7,3, range= 0-27), respectively. Kruskal-Wallis and Dunn statistics (p<0,0001): CMDs + BB + very high scores in dissociation versus CMDs + BB + low scores in dissociation (p<0,001); Craniomanibular Disorders + BB + very high scores in dissociation versus No Craniomandibular Disorders no Bruxing behavior (p<0,001); Craniomandibular Disorders + Bruxing Behavior + low scores in dissociation versus No Craniomandibular Disorders No bruxing behavior subgroup (p>0,05).*

Mean somatization scores were about 12,3 (SD=6,2, range=1-28); 7,7 (SD=4,5, range=1-18) and 5,0 (SD=3,3, range=0-11) in the Craniomandibular disorders + Bruxing Behavior + very high scores in dissociation, in the Craniomandibular Disorders + BB + low scores in dissociation and in the No Craniomandibular Disorders, No bruxing behavior subgroups, respectively. Kruskal-Wallis and Dunn statistics (p<0,0001): Craniomandibular Disorders + Bruxing Behavior + Very High scores in Dissociation subgroup versus Craniomandibular Disorders + Bruxing Behavior + low scores in dissociation subgroup (p<0,001); Craniomandibular Disorders + BB + Very High scores in dissociation subgroup versus No Craniomandibular Disorders No Bruxing Behavior subgroup (p<0,001); Craniomandibular Disorders + Bruxing Behavior + low scores in dissociation subgroup versus No Craniomandibular Disorders no Bruxing Behavior subgroup (p>0,05).

Mean scores in anger held inward were about 159 (SD=43,5, range=39-270); 117 (SD=57,1, range= 0-251) and 131,3 (SD=60,2, range=21-280) in the Craniomandibular disorders + Bruxing Behavior + Very High scores in dissociation subgroup, in the Craniomandibular Disorders + Bruxing Behavior + Low scores in dissociation subgroup and in the No Craniomandibular Disorders No Bruxing Behavior subgroup, respectively. Kruskall- Wallis statistics with Dunn´s (p<0,0001): Craniomandibular Disorders + Bruxing Behavior + Very High scores in dissociation subgroup versus Craniomandibular Disorders + Bruxing Behavior + low scores in dissociation subgroup (p<0,001); Craniomandibular Disorders + Bruxing Behavior + Very High scores in dissociation versus No Craniomandibular Disorders No bruxing Behavior subgroup (p<0,05); Craniomandibular Disorders + Bruxing Behavior + Low scores in dissociation versus No Craniomandibular Disorders no Bruxing Behavior subgroup (p>0,05).

Mean scores in dissociation were about 40,3 (SD=10,4, range=3-63); 6,4 (SD=2,7, range=1-10); and 13,7 (SD=10,9, range=1-48) in the Craniomandibular Disorders + Bruxing Behavior + Very High scores in dissociation subgroup, in the Craniomandibular Disorders + Bruxing Behavior + Low scores in dissociation subgroup and in the No Craniomandiular Disorders No Bruxing Behavior subgroup, respectively. Kruskal-Wallis statistics with Dunn´s test (p<0,0001): Craniomandibular Disorders + Bruxing Behavior + Very High scores in dissociation subgroup versus Craniomandibular Disorders + Bruxing Behavior + low scores in dissociation subgroup (p<0,001); Craniomandibular Disorders + Bruxing Behavior + Very high scores in dissociation subgroup versus No Craniomandiular Disorders No Bruxing Behavior subgroup (p<0,001); Craniomandibular Disorders + Bruxing Behavior + Low scores in dissociation subgroup versus No Craniomandibular Disorders No Bruxing Behavior subgroup (p<0,01).

Conclusions: *The subgroup presenting Craniomandibular Disorders, Bruxing Behavior and very high scores in dissociation demonstrated higher scores in depression, somatization, anger inward and dissociation as compared with the Craniomandibular Disorder and Bruxing behavior and low scores in dissociation and with the No Craniomandibular Disorders and No Bruxing Behavior subgroups. Among subjects with Craniomandibula Disorders and Bruxing behavior, there is a very complex subgroup with more severe psychopathology. A more complex and comprehensive plan of treatment should be instituted in complex patients so as to be more beneficial to neutralize their complex psychopathology..*

Keywords*: Craniomandibular* ***Disorders. Bruxing Behavior. Depression. Somatization. Dissociation.***

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I. Introduction

Craniomandibular Disorders (CMDs), is a set of well defined signs and symptoms of pain and dysfunction occurring in the masticatory muscles, temporomandibular joints (TMJs) and adjacent anatomic structures, usually of musculoskeletal origin[1]. CMDs are characterized by complaints of pain, joint noises, tenderness to palpation of muscles and joints, difficulties to perform normal jaw movements[2] and headache of musculoskeletal origin. Bruxing Behavior (BB), usually classified as diurnal, sleep or mixed is a complex and frequent psychological, neurophysiological and motor disorder associated with anxiety, depression and/or somatization usually occurring in different gradients of intensity, frequency and severity of signs and symptoms[3]. BB is also defined as an oral jaw behavior characterized by rhythmic or spasmodic nonfunctional gnashing, grinding or clenching of teeth which may cause signs and symptoms of traumatic occlusion in many components of the masticatory system[4}.

Recent evidence points to a close association between BB, emotional and psychological factors including anxiety, depression, stress, somatization[5] and probably dissociation. Dissociation or Dissociative Disorders (DID), consist of a group of dissociative experiences associated with deterioration of one or more integrative functions of the psychic apparatus[6]. Dissociation involves disruption and thus, discontinuity of the normal integration of consciousness, memory, identity, emotions, perception, body representation, motor control and behavior[7] . In some studies, BB and CMDs have been closely associated with somatization[8]. On the other hand, somatization has been defined as a form of dissociation. Thus, one is led to think that there may be an association between dissociation, somatization and CMDs. There is paucity of studies relating dissociation and somatization with CMDs, more specifically, in subjects with more severe forms of CMDs and higher scores in dissociation. Consequently, this investigation was carried out to:

1.Describe scores in depression, somatization and anger-in in a subgroup of CMDs and BB subjects with very high scores in dissociation.

2.1. Discuss the clinical and therapeutic implications of a subgroup of CMDs and BB individuals presenting with very high scores in dissociation.

II. Material And Methods

Sample

All those clinical charts from subjects presenting with CMDs, BB and data about dissociation based on the Bernstein and Putnam Scale were retrieved from all those CMDs and BB individuals evaluated in the last 10 years in the Department of Orofacial Pain at UNIRG University, Gurupí, (Brazil). Then, 51 experimental subjects demonstrating DES scores of 30 or higher were separated to form the experimental , CMDs and BB subgroup with high scores in dissociation (CMDs + BB + HSD). An equal number of subjects (n=51) with CMDs, BB and DES scores of 10 or lower were also selected to form the first control subgroup (CMDs + BB + LSD). An equal number of subjects (n=51) with no CMDs and no BB presenting data about dissociation with previous use of the DES self-reported questionnaire was also selected to form the second control subgroup (No CMDs No BB). Before this selection process, all experimental and control subjects that

had been referred consecutively to a facial and TMJ pain facility at UNIRG University Gurupi-TO, Brazil) over a period of ten years were examined using a standard protocol to gather information about CMDs, BB and psychological disorders: Evaluation of the chief complaint including characteristics of the pain disorder, palpation of joint and muscles, determination of the type of facial, TMJ and/or headache pain, use of biomechanical tests to assess the type of internal derangement of the TMJ (for instance, capsulitis, retrodiskal pain and disk-attachment pain), clinical examination and questionnaire to assess the presence and BB type (mild, moderate, severe, extreme, diurnal, nocturnal, mixed). Psychological tests including those for anxiety (TMAS), depression (BDI), somatization[9] and dissociation[10] were also used in another appointment for additional evaluation. The anger inward instrument[11] was also used to gather information about anger taken inward. During the evaluation process all subjects signed a formal consent allowing researcher (OFM) to use their data for clinical and research purposes.

Inclusion criteria for CMDs: A complaint of facial and or TMJ pain, difficulties to perform normal jaw movements, tenderness to palpation of the TMJ and masticatory muscles, joint noises and headache referred from the TMJ and/or masticatory muscles.

Inclusion criteria for BB: Patient´s self-report of clenching the teeth during the day and or grinding during the night, fatigue of the masticatory muscles during the day, patients and/or relatives´ report of grinding the teeth at night, patient´s report of catching himself or herself grinding or clenching the teeth at night, self-report of awakening with TMJ and/or facial pain, and jaw locking on awakening in the morning.

Inclusion criteria for subjects with higher and lower scores in dissociation: Experimental subjects with CMDs and BB scoring 30 or higher in the Dissociative Experience Scale[10], were included in the subgroup of 51 subjects presenting with higher score in dissociation or CMDs + BB + HSD subgroup. A score of 10 or lower using the same scale was used to include subjects in the Craniomandibular Disorders, Bruxing Behavior and Low scores in dissociation or "CMDs + BB + LSD subgroup".

Exclusion criteria: Experimental subjects and reference controls presenting with severe psychological or psychiatric disorders, those with any type of epileptic disorders including Parkinson´s disease, presence of cognitive disturbances and/or difficulties to respond properly to questionnaires or to participate in the clinical examination were not examined comprehensively and thus, were not included in the current investigation.

III. Measures

The Beck Depression Inventory or BDI: The Beck Depression Inventory or BDI is a robust psychological measure used widely to assess depression for research and clinical purposes. Such instrument is a 21-item self-reported questionnaire usually answered in 5-10 minutes in which questions are hierarchically organized from normal (0 score) to higher (1,2,3 scores). The instrument has excellent reliability and correlation with depression and anxiety disorders.

The Somatization Scale: The Rief and Hiller[9] questionnaire is a self-reported instrument used to gather information about signs and symptoms of multiple body complaints. This self-reported instrument has 32 questions evaluating disorders in a variety of organs and systems to which the patient responds as never, rarely, occasionally, frequently and always. A cut off score of 7 separate somatic from non-somatic patients.

The Anger Held Inward Self-reported questionnaire[11]: This instrument is a 29-item self-reported inventory developed to be used to gather information about difficulties to express anger in different situations. The instrument was developed in the Orofacial Pain Department at UNIRG University, Dental School.

The Bernstein and Putnam self - reported questionnaire[11]: The Dissociative Experience Scale (DES), is a 28-item self-reported instrument developed by Bernstein and Putnam to be used as a screening device for chronic dissociative disorders. Using this instrument, the patient responds circling any score ranging from 0% to 100%. A score of 30% is useful to screen dissociative disorders among general psychiatric patients. Such cut off point separates severe from non severe dissociative disorders[12]

IV. Statistical analysis

Nonparametric statistical test (Kruskal-Wallis an Dunn) were used to evaluate statistical significant differences when different subgroups were evaluated regarding their means in depression, somatization, anger held inward and dissociation.

V. Outcome

This investigation evaluated a subgroup of 51 individuals presenting with CMDs, BB and very high scores in dissociation (CMDs + BB + HSD); 51 subjects with CMDs + BB + low scores in dissociation (CMDs + BB + LSD) and another control subgroup (n=51) with no CMDs and no BB (No CMDs No BB). Mean age in the subgroup with CMDs + BB + very high scores in dissociation was about 32,4 years (SD=13,0, range=11-57); 33,5 years (SD=12,4, range=17-64) in the CMDs + BB + low scores in dissociation and 32,7 years (SD=13,4, range=17-70) in the No CMDs no BB subgroup. Kruskal-Wallis statistics (p=0,85) showed that

there was no significant difference in age when the three subgroups were compared. There were 3 males (5,9%) and 48 females (94,1%) in the CMDs + BB + HSD subgroup; 4 males (7,8%) and 47 females (92,2%) in the CMDs + BB + LSD subgroup and 15 males (29,4%) and 36 females (70,6%) in the No CMDs No BB subgroup. This is so as females are overrepresented in subgroups of CMDs and BB subjects and even in control ones. (See Table 1 for additional details).

Mean BDI in the subgroup of CMDs + BB + HSD was about 19,2 (SD=8,0, range=4-41), 9,0 (SD=6,7, range=0-26) in the CMDs + BB + LSD subgroup and 7,2 (SD=7,3, range=0-27) in the No CMDs No BB subgroup. Regarding BDI, there was a statistically and significant difference (Kruskal-Wallis and Dunn´ statistics (p=0,0001) when the subgroups were contrasted: CMDs + BB + HSD versus CMDs + BB + LSD (p<,0,001); CMDs + BB + HSD versus No CMDs No BB (p<0,001); CMDs + BB + LSD versus No CMDs No BB subgroup (p>0,05). (See Table 2 for further details).

Mean somatization scores were about 12,3 (SD=6,2 range=1-28); 7,7 (SD=4,5, range=1-18) and 5,0 (SD=3,3, range 0-11) in the CMDs + BB HSD, CMDs + BB + LSD and No CMDs No BB, respectively. Kruskal-Wallis and Dunn´ statistics (p<0,0001): CMDs + BB + HSD subgroup versus CMDs + BB + LSD subgroup (p<0,001); CMDs + BB + HSD subgroup versus No CMDs No BB subgroup (p<0,001); CMDs + BB + LSD versus No CMDs No BB subgroup (p<0,05). (See Table 2 for additional details).

Mean scores in anger-inward were about 159 (SD=43,5, range=39-270); 117 (SD=57,1, range=0-251) and 131,3 (SD=60-2, range 21-280) in the CMDs + BB + HSD, CMDs + BB + LSD and No CMDs No BB subgroups, respectively. Kruskal-Wallis´ statistics (p=0,0001): CMDs + BB + HSD versus CMDs + BB + LSD (p<0,001); CMDs + BB + HSD versus Non CMDs No BB (p<0,05); CMDs + BB + LSD versus No CMDs No BB (>0,05). (See Table 2 for additional details).

Mean scores in dissociation were about 40,3 (SD=10,4, range=3-63); 6,4 (SD=2,7, range=1-10); and 13,7 (SD=10,9, range=1-48) in the CMDs + BB + HSD, CMDs + BB + LSD and No CMDs No BB, respectively. Kruskal-Wallis´ statistics (p<0,0001): CMDs + BB + HSD versus CMDs + BB + LSD (p<0,001); CMDs + BB + HSD versus No CMDs No BB (p<0,001) and CMDs + BB + LSD versus Non CMDs Non BB (p<0,01). (See Table 2 for further details).

VI. Discussion

1.Depression and dissociation

One objective of the current investigation was to assess depression in the CMDs + BB subgroup with very high scores in dissociation. Because such subgroup demonstrated the highest scores in depression, such outcome strongly indicates that there is a strong association between severer dissociation and depression in CMDs and BB subjects. This assumption is strongly supported by one investigation[7] reporting that when severer dissociation clearly indicates the presence of dissociative identity disorders, the rate of depression associated suicide is extremely high. Recent evidence points to a strong association between chronic depression, dissociation somatization. In this regard, one investigation[13] showed that females with chronic depressive disorders demonstrated higher scores in dissociation and somatization as compared with non depressive females. In patients with and without a history of dissociative disorders, there is a strong association between more severe depression and suicidal behavior only in the those presenting with dissociative disorders[14]. Most patients in the CMD + BB + HSD subgroup complained of headache including migraine, combination headache, tension-type headache and even occipital neuralgia. Providing partial support for such observation in the current study, one investigation[6] evaluated somatoform dissociation in headache patients and reported that headache patients had more dissociative experiences and higher scores in depression as compared with the control group. More severe dissociation is usually correlated with depression[15]. There seems to be evidence of a high frequency of severe or destructive bruxism in large samples of CMDs, BB and very high scores in dissociation. This assumption seems very speculative. However, Ware and Rugh[16] evaluated a small set of CMDs and destructive BB subjects reporting that all complained of severe facial and TMJ paint upon rising, periodic locking and signs of depression.

2.Somatization and dissociation

An additional goal of the current study was to evaluate somatization in the subgroup presenting with CMDs BB and very high scores in dissociation. Because most subjects in this group also complained of headache and demonstrated the highest scores in somatization, such outcome is in line with one investigation[6] evaluating psychomotor and somatoform dissociation and reporting that subjects in their study had more dissociative experiences and higher somatoform dissociative symptoms as compared with healthy controls. Additional support for the findings in the current investigation comes from one study[8] in CMDS and BB subjects. Researcher reported that BB in subjects with CMDs was positively and significantly associated with somatization. They also reported that higher scores in somatization were observed in such group as compared with the control one. Somatization is more intense in CMDs and BB subjects as compared with control ones.

More frequent physical complains indicating somatization are observed in CMDs subjects with a current history of BB and sexual abuse events in childhood and/or adolescence[3]. According to a new working hypothesis[17], some types of chronic CMDs may be part of an interdisciplinary group of somatoform syndromes known as "functional somatic syndromes". There is no doubt that very high dissociation scores indicate the presence of a variety of significant psychological or psychiatric disorders. This assumption is echoed by one study[14] indicating that those subjects with more severe depression and previous suicide attempts (suicidal group), had a higher mean of somatoform symptoms, borderline personality and dissociative disorders.

3.Anger-inward and dissociation

In the current study, the highest scores in anger held inward were observed in the CMDs and BB subgroup with the highest scores in dissociation. The clinical and practical significance of these data indicate that BB and CMDs individuals have greater difficulty in managing emotions and expressing their anger outwardly. Such data and assumptions are congruent with information from a classic review of the psychoanalytic literature on bruxers indicating that such individuals are those characterized by "their difficulties to release aggression, internal tension, stress and difficulties to express rage properly. When those individual face life dilemmas they become anxious, tense and enraged[18]. Because the highly selected subgroup of CMDs, and BB demonstrated very high scores in dissociation, some of them may in fact present dissociative disorders. This assumption has significant support in one investigation[19] indicating that individuals with dissociative disorders may shelter an aggressive alter, depression and use splitting of the rage. Further, some of them may also shelter a malevolent ego state with excessive rage and destructive tendencies. In the perceived threat of loss of control, such individuals need to express anger or rage at daytime and night-time. Thus, their dissociation seems to contribute to excessively modulate some emotions[13] including anger inward. The connection between anger and dissociation is less known that the connection between anger and depression. Depression in CMDs and BB individuals has been reported in a number of studies and most researchers assert that sequestered anger or anger held - inward causes depression It has also been reported that there is an association between anger, chronic depression and dissociation. A history of physical, emotional, and sexual abuse is reported frequently by patients with CMDs and BB[20]. Any or a combination of these forms of abuse may lead to depression, anger held inward, somatization and dissociation. Reinforcing this point of view, one study[21] asserts that patient with sexual abuse history report many psychological and psychiatric disorders including anger, depression and anxiety.

4. Dissociation in different subgroups

Even though CMDs have been described as a complex set of musculoskeletal disorders whose signs and symptoms have been well defined for diagnostic and therapeutic purposes, CMDs and BB are better understood if they are separated or classified in different subgroups based on their clinical and psychological characteristics. For instance, such disorders could be classified as acute and chronic CMDs, CMDs with mild, moderate severe and extreme BB, CMDs and BB with severe or mild anxiety and depression and CMDs and BB with mild or higher levels of somatization and dissociation. Following this line of reasoning, the CMDs and BB subgroup with higher scores in somatization, depression and dissociation for research and therapeutic purposes should be considered as an independent, different and complex subgroup in which psychological intervention is not only a need but one crucial step in a comprehensive treatment plan.

The current investigation demonstrated that there exists a subgroup of CMDs and BB with very high scores in dissociation. Even though there are no studies evaluating dissociation in CMDs and BB subgroups, there is no doubt that subjects with this clinical and psychological profile constitute a very complex subgroup in psychiatric terms. The outcome in the current investigation and the aforementioned considerations are congruent with a previous investigations[22] in CMDs and bruxers subjects in which researchers reported no dissociation, mild, moderate, severe and very severe dissociation in a large sample of CMDs and BB subjects. In such investigation researchers reported a prevalence of 9% of very severe dissociation.

CMDs and BB are considered manifestations of a somatization disorder[23], the latter thought to be a dissociation disorder. Thus, it makes sense to observe CMDs and BB subjects with different levels of somatization, dissociation and other psychiatric disorders. This observation is endorsed by one investigation asserting that somatization and dissociation are closely interrelated and CMD and BB individuals are characterized by the presence of anxiety, depression and other psychiatric disorders[24].

5.Clinical implications in the CMDs and BB subgroup with very high scores in dissociation. CMDs and BB subjects presenting very high scores in dissociation, somatization anger-inward and depression are clinically and psychiatrically so complex that they challenge the skills of the clinician even when a combined therapy is instituted to relieve pain, stress, anxiety and depression. In this regard, one investigation[16] evaluated a subgroup of very complex CMDs and BB individuals presenting with chronic pain, destructive bruxism anxiety and depression. Even though researchers did not evaluate neither somatization, nor dissociation, they

labeled such set of patients as "destructive bruxers" and " treatment failures" and recommended the use of antidepressants, anti-anxiety drugs and a splint to be used at night. A similar but more complex investigation[25] assessed a larger sample of CMDs subjects with very severe BB. Even though scores in dissociation and somatization were not evaluated in the comparison of subgroups, researchers reported that more severe or destructive bruxers when compared with mild bruxers and with bruxers with no CMDs, reported greater use of different medications to ameliorate pain, anxiety and depression.

Chronic muscle spasm and some psychiatric disorders including anxiety, depression and somatization are reported frequently by CMDs and BB subjects during the evaluation process. Thus, clonazepan, a known benzodiazepine is frequently prescribe to ameliorate sleep[26]. One reason explaining the low effectiveness of most drugs used in craniofacial pain and bruxism, is that they are not prescribed in combination to neutralize the different mechanism including stress, anxiety, depression and even dissociation that converge to chronic pain and dysfunction as the common denominators. Because a subgroup of patients presenting with CMDs, BB and higher scores in dissociation was identified in the current investigation, the complexity of such a disorder, dictates the need to refer such patients for psychological or psychiatric therapy. Because higher scores in dissociation may be associated with higher scores in depression, suicide trends may be observed more frequently in this set of destructive bruxers with higher scores in depression somatization, anger inward and dissociation. Such profile indicates the need for psychological of psychiatric treatment of such patients.

Different types of headache including migraine, tension-type headache, myofascial headache, combination headache and occipital neuralgia can be observed in CMDs and BB subjects, more specifically in chronic cases. Because higher level of hostility can be observed in such subgroups of CMDs and BB individuals with different headache types as compared with control ones with no headache, antidepressants and anti-anxiety medication should be prescribed for such patients[11].

VII. Conclusion

This investigation demonstrated the presence of a CMDs and BB subgroup with more complex psychopathology in terms of depression, somatization, dissociation and anger inward as compared with two control subgroups. Thus, to the extent of our knowledge this is the first time a subgroup of CMDs and BB subjects with very high scores in dissociation is reported in the dental and medical literature. A more complex and comprehensive treatment plan should be instituted in patients presenting the aforementioned characteristics so as to better neutralize the negative clinical effects of depression, somatization, anger inward and dissociation. Additional investigations are needed using similar samples and methods to further substantiate the findings in the current study.

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Table 1: Social and demographic data in the Craniomandibular Disorders + Bruxing Behavior + Very High scores in dissociation (CMDs + BB + HSD); Craniomandbular Disorders + Bruxing Behavior Low Scores in dissociation (CMDs + BB + LHS) and in the No Craniomandibular Disorders no Bruxing Behavior (No CMDs No BB) subgroups.

	SUBGROUPS					
	CMDS +BB +HSD		CMDs +BB +LSD		NOCMDs NOBB	
GENRE	n=51		n=51		n=51	
	n	%	n	%	n	%
Females	48	94,1	47	92,2	36	70,6
Males	3	5,9	4	7,8	15	29,4
Totals	51	100	51	100	51	100
AGE						
Mean	32,4		33,5		32,7*	
SD	13.0		12,4		13,4	
Range	11-57		17-64		17-70	

*****Kruskal-Wallis statistics (p=0,85), a no statistically significant difference.

Table 2: Scores in depression, somatization, anger - in and dissociation in the Craniomandibular Disorders + Bruxing Behavior + Very High scores in dissociation (CMDs + B + HSD), in the Craniomandibular Disorders + Bruxing Behavior + Low Scores in dissociation (CMDs+ BB + LSD) and in the Non Craniomanibular Disorders Non Bruxing Behavior (Non CMDs Non BB) subgroups.

	SUBGROUPS		
PSYCHOLOGICAL DISODER	CMD+BB+HSD CMD+BB+HSD	CMD+BB+LSD CMD+BB+LSD	NO CMDs NO BB NO CMD NO BB
	n=51	n=51	n=51
Depression			
Mean	19,2	9,0	7,2*
SD	8,0	6,7	7,3
Range	4-41	0-26	0-27
Somatization			
Mean	12,3	7,7	5,0**
SD	6,2	4,5	3,3
Range	1-28	1-18	0-11
Anger-in			
Mean	159	117	131,3***
SD	43,5	57,1	60,2
Range	39-270	0-251	21-280
Dissociation			
Mean	40,3	6,4	13,7****
SD	10,4	2,7	10,9
Range	3-63	1-10	1-48

*****Kruskal-Wallis and Dunn´ statistics p<0,0001: CMDs + BB + HSD versus CMDs + BB + LSD (p<0,001); CMDs BB + HSD versus No CMDs No BB (p<0,001); CMDs + BB + LSD versus No CMDs No BB (p>0,05).

****** Kruskal-Wallis and Dunn´ statistics (p<0,0001): CMDs + BB + HSD versus CMD + BB+ LSD (p<0,001); CMDs + BB + HSD versus Non CMDs Non BB (p<0,001); CMDs + BB + LSD versus Non CMDs Non BB (p>0,05).

*** Kruskal-Wallis and Dunn´statistics (p<0,0001): CMDs + BB + HSD versus CMDs + BB + LSD (p<0,001); CMDs+ BB + HSD versus Non CMDs Non BB (p<0,05); CMDs + BB + LSD versus No CMDs No BB (p>0,05).
********Kruskal-Wallis and Dunn´ statistics (p<0,0001): CMDs BB + HSD versus CMDs + BB + LSD (p<0,001); CMDs + BB + HSD versus Non CMDs No BB (p<0,001); CMDs + BB + LSD versus Non CMDs No BB (0,01).

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