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DISSOCIATION IN TMDs/HEADACHE/, TMDs/NON HEADACHE, AND NON TMDs/NON HEADACHE CONTROLS: HEALTH IMPLICATIONS IN THE GENERAL POPULATION

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ABSTRACT

Goal: Evaluate scores in dissociation in TMD and non TMD individuals. **Methods**: The Dissociative Experience Scale or DES was used in 196 TMDs and Headache, 39 TMDs no headache, 75 controls with headache and 38 controls with no headache individuals. Clinical examination, palpation of joint/muscles, criteria for TMDs and for differente headache types were used. **Results**: Mean DES scores in the TMD+HA, TMD - HA, Controls, Controls +HA and Controls - HA were about 17,7, 22,0 12, 6, 14, 8 and 10,5 respectively (Tukey-Kramer ANOVA $p<0.0001$). The frequency of severe dissociation increased from the control no headache to the control + headache, to the TMD - headache and and to the TMD+headache subgroups (X-square for independence $p=0,03$, X-square for trends $p=0,02$). **Conclusion:** Higher scores in dissociation were observed in the subgroups presenting TMDs with and without headache. Controls no TMDs with headache presented higher scores as compared to Controls no TMDs amdmp headache. Headache in both TMDs and control individuals may increase the likely hood of presenting higher scores in dissociation.

Keywords: Dissociation. TMDs. Headaches.

DISSOCIAÇÃO EM INDIVÍDUOS COM DTMS/DORES DE CABEÇA, DTMS/SEM DORES DE CABEÇA, E SEM DTMS/SEM DORES DE CABEÇA: IMPLICAÇÕES COM A SAÚDE NA POPULAÇÃO GERAL

RESUMO

Objetivo: Avaliar o nível de dissociação em indivíduos com/sem distúrbios temporomandibulares. **Métodos:** A escala de experiências dissociativas ou DES foi usada em 196 indivíduos com DTMs e com dores de cabeça, 39 indivíduos com DTMs sem dores de cabeça, 75 controles com dores de

cabeça e 38 controles sem dores de cabeça. Exame clínico, palpação de músculos e articulações, critérios para DTMs e paradores de cabeça diferentes foram usados. Resultados: As valores médios na escala DESnos grupos DTM com dores de cabeça, DTMs sem dores de cabeça, controles, controles com dores de cabeça e controles sem dores de cabeça foram 17,7, 22,0, 12,6 14,8 e 10,5 respectivamente (ANOVA de Tukey e Kramer $p<0,0001$). A frequência de dissociação severa aumentou do grupo controle sem dores de cabeça para os grupos controle com dores de cabeça, DTMs sem dores de cabeça e DTMs com dores de cabeça (teste x-quadrado para independência $p=0,03$, teste x-quadrado para tendências $p=0,02$). Conclusão: Valores mais altos em dissociação foram observados nos subgrupos com DTMs com e sem dores de cabeça. Os controles sem DTMs e com dores de cabeça apresentaram valores mais altos em dissociação do que o grupo controle sem DTMs e sem dores de cabeça. A dor de cabeça tanto no grupo DTM como no grupo controle aumenta a probabilidade de apresentar valores mais altos em dissociação.
Palavras-chave: Dissociação. DTMs. Dores de cabeça.

INTRODUCTION, LITERATURE REVIEW

The term “Dissociation” refers to a disruption of the normal integration of experience, consciousness, memory, identity or perception of the environment (FISHER, 2001). Dissociative Identity Disorder (DID), is characterized by the presence of two or more distinct identities or personality states that, recurrently take control over an individual´s behaviors accompanied by an inability to recall important personal information (GALBRAITH; NEUBAUER, 2000). DID patients usually present with symptoms of depression, schizophrenia, somatization, drug abuse, and antisocial behavior. Such patients use dissociation as a defense against traumas, utilize different identities to deal with traumas, to preserve and handle other personality functions, and their personality states are characterized by a relatively enduring and altered pattern of perceiving, relating to and thinking about the environment and the self (FRANKLIN, 1988).

Headache is a common symptom and one of the most frequently encountered problems in daily general medical practice (HIRATA, 2004). Migraine and tension-type headache (TTH) are the most common headache syndromes and sometimes interfere with daily activities. Not only are chronic headache sufferers frequently depressed, but headache is the most common somatic symptom in depressed patients (CHOI et al., 1995). Despite the evidence for a biologic mechanism, many physicians still defend the notion that chronic headaches are largely psychogenic. Many headache specialists believe that some factors including psychologic conditions, most likely have a role in maintaining headache chronicity, and recommend to address psychosocial issues as part of a comprehensive treatment approach (MÜELLER, 2000). Analgesic overuse usually accompanies the treatment of headache which occurs commonly in DID patient groups (GALBRAITH; NEUBAUER, 2000).

Some researchers (CHOI et al., 1995), suggest that chronic headaches serve to obscure a serious emotional disorder, most often depression or anxiety, and that these conditions may be converted into an acceptable physical symptom such as headache. Migraine sufferers are those who are

ambitious, repress anger, impose many demands and responsibilities on thesemlves, are perfectionistic, dependent, rigid, depressed, anxious and present with hysterical tendencies. Individuals with TTH may be characterized by the presence of tenseness, hostility, repression of anger, anxiety, depression, psychosexual conflict, unresolved dependency and somatization tendencies. Additionally, Higher levels of somatization have been found in patients with chronic headache, possibly due to heightened vigilance to bodily sensations that may magnify prodromal symptoms preceding a headache (MÜELLER, 2000). The patient presenting to the doctor with a headache usually believes that the problem is caused by physical processes, so the history alone is more likely to lead to physical testing and medical treatments, rather than to an examination of emotional factors (ABBAS, LOVAS & PURDY., 2008).

Temporomandibular disorders (TMDs) is a collective term used to describe a number of related disorders affecting the temporomandibular joints (TMJs), masticatory muscles and associated structures, all of which have common symptoms such as pain and limited mouth opening. Oral parafunctions such as clenching or bruxism are sometimes related to psychogenic disorders such as headache, chronic back pain, irritable bowel syndrome and stress. Anxiety and depression are key features of myofascial pain (MPDS) and dysfunction which is observed frequently in TMD patients (DIMITROULOS, 1998). TMDs individuals do present pain in the preauricular region, temple, or ear when chewing or opening the mouth and such a symptom may radiate to the head, face, or eye (KNIGHT, 1999). They may also report symptoms in common with chronic fatigue syndrome and fibromyalgia, such as muscle pain, sleep problems, difficulty concentrating, and debilitating headaches. TMJ pain may represent one manifestation of a more global pain sensitivity disorder and may form part of a group of overlapping conditions (AARON; BURKE; BUCHWALD, 2000). Because the study of psychological factors in TMD patients is far from complete, the goals of this investigation are the following:

1. Assess scores in dissociation in TMD individuals with, without headache and in controls non TMDs;

2.Evaluate the frequency of severe dissociation in TMDs individuals with or without headache and in controls non TMDs; 3. Assess the frequency of severe and extreme bruxing behavior and examine a possible positive correlation between severity of bruxing behavior and severity of dissociation.

MATERIALS AND METHODS

Patients for this study were those referred consecutively for diagnosis and treatment of TMDs to the University of Gurupi (UnirG), School of Dentistry in the period 2008-2012. Once large samples of both TMDs and non TMDs were obtained, all patients were allocated to four different groups: Patients with TMDs and Headaches (TMDs+HA), those with TMDs no headache (TMDs-HA) , Non TMDs Controls (all), controls non TMDs + headache (Controls + HA) and those controls non TMDs No headaches (Controls – HA) . There were 178 females (90.8%) and 18 males (9.2% in the group of TMDs with headaches, 30 females (76.9%), and 9 males (23.1%), in the group of TMD patients without headache, 61 females (81,3%) and 14 males (18,7%) in the total control group, 30 females (78.9%), and 8 males (21.1%) in the group of non TMD with headache controls, and 31 females (83.8%) and 6 males (16.2%), in the group of non TMD patients without headaches. The mean ages of these four groups were about 34,6 (SD=12,0, range 10-75), 36,5 (SD=11.5, Range 11-61), 37,5 (SD=14,0, Range 16-73), 39,4 (SD=13,6, Range 16-73), and 35,5 (SD=14,4, Range 17-68), years, respectively. Mean ages were not significantly different in these five groups (TUKEY-KRAMER ANOVA, p=0,20).

Patients were accepted as presenting TMDs if they demonstrated three of the following signs and symptoms on clinical examination, history taking, and palpation: Pain in the masticatory system, joint noises assessed with the aid of digital palpation and confirmed with the use of a sthetoscope , tenderness to palpation, and difficulties to perform normal jaw movements (jaw deviation and limited mouth opening). Controls (two groups n=75) were those non TMDs with or without headaches referred in the same period of time and were allocated to controls non TMDs with headaches and controls non TMDs no headaches subgroups.

Comprehensive questionnaires were used to assess the presence of pain. Criteria for common headaches in TMD patients and controls were those used in previous studies (MOLINA et al., 2011; ANDRASIK et al., 1982; KUHN; KUHN; GILBERSTADT, 1997; MARTÍNEZ, 2004):

TTH: Pain described as bilateral, occurrinhg in the temporal, frontal and occasionally in the occipital region; pain described as dull, pressure, constant and constrictive; patient´s report of nausea occurring more frequently than vomiting; pain described as mild or moderate more frequently than severe**;** the presence of a “band pressing around the head” and presence of cervical trigger points responsible for such a headache.

Common Migraine headache: Unilateral and occasionally bilateral pulsating headache pain; presence of nausea and vomiting;pain usually much more intense and lasting than TTH; hypersensitivity to light and sounds during attacks **and** presence of ocular effects.

Combination headache: Patient´s report that he or she had two distinct types of headaches; subjects meeting criteria for both migraine and tension-type headache;pain usually described bilaterally, however, pain in one side (migraine) described as more intense and throbbing as compared to the other side.

Myofascial headache: Episodes of unilateral headache pain occurring alternatively without characteristics of migraine;pain described as dull, aching, constant, pressure or tightness and presence of cervical trigger points responsible for the predictable pattern of pain.

Occipital neuralgia: Pain episodes described as brief, paroxistic, sharp, lancinating in the distribution of the greater occipital nerve;a continuous aching component of pain lasting days or weeks; patient´s report of nasal congestion, visual blurring, ocular pain, nausea and dizziness; presence of two clear areas of pain: Pain in the occipital area where the “Pain generator” is located and projected pain to the ocular, supra ocular and infra-ocular regions.

The Dissociative Experience Scale or DES, is a self-report instrument that quantitatively measures dissociative symptoms and experiences. A total score of 30 suggests the presence of significant pathological dissociation (MARTÌNEZ,

2004). Subjects answer this test by circling the percentage of time they experience dissociation (0%-100%). The Portuguese version has good reliability and its Cronbach alpha is about 0.94 (ESPIRITO-SANTO; PIO-ABREU, 2009). This study was retrospective, patients charts were examined retrospectively and was designed according to ethical principles based on Helsinki´s convention, patients were not examined for research but for examination and dental treatment purposes, and finally, patients at UnirG Dental School sign a consent stating that their material could be used for research purposes. Confidentiality is guaranteed for all patients seeking dental treatment at UnirG Dental School. Statistical analysis deemed appropriate to evaluate data in this study were Tukey´s Multiple Comparison Test, Pearson (Parametric) and Spearman (Non Parametric) tests, X-square for independence, X square for Trends and Fisher´s exact test.

RESULTS

The results of this study are shown in tables 1 through 5.

Table 1 shows that mean ages in the TMD+HA, TMD-HA, Controls (All), Controls+HA and control-HA, were about 34,6, 36,5, 37,5, 39,4 and 35,5 years, respectively. **Table 2** shows that the means in dissociation in the five above groups were about 17,7, 22,0, 12,6, 14,8 and 10,5 respectively. Tukey-Kramer ANOVA with post-test p=0,0001 indicates a highly significant difference. Statistical and significant differences were observed when comparing the groups TMD+HA and Controls ($p<0,01$), TMD+HA and Controls no HA ($p<0,01$), TMD-HA and Controls ($p<0,001$), TMD no HA and Controls HA ($p<0,05$) , and TMD no HA and Controls no HA ($p<0,001$). **Table 3** shows that the frequency of severe dissociation increased from the Controls –HA group to the Control+HA group, to the TMDs-HA group and finally to the TMDs+HA group and the difference was statiscally significant (X-square for independence p=0,03, X-square for trends p=0,02). **Table 4** demonstrates that the frequencies of severe or extreme bruxing behavior in the TMDs+HA, TMDs- HA, Controls, Controls-HA and Controls+HA were about 64,3% (n=126), 43,6% (n=17), 14,6% (n=11), 8,1% (n=3), and 21,1%

(n=8), respectively. The same table demonstrates that the correlation between severity of bruxing behavior and severity of dissociation were positive and significant in the TMDs+HA, and in the control groups respectively (Pearson or Spearman rho 0,18 p=0,03 and 0,28 p=0,05, respectively. **Table 5** shows the results of a trend analysis for severe/extreme bruxingbehavior when the subgroups were organized in this order: Controls-HA, Controls+HA, TMDs-HA, and TMDs+HA. Because X-square for independence p<0,0001 and X-square for trends p<0,0001, we may state that the frequency of extreme bruxing behavior increased from the control subgroups without headache to the TMDs subgroups without and with headaches.

Table 1 – Sociodemographicdata in TMD patients with pain (n=196), TMD patients without pain (n=39), controls non TMD individuals (n=75), Controls with Headache (N=38) and Controls with no headache (n=3

	TMD+ HA		TMD-HA		Controls (All)		Controls+HA		Controls-HA	
N	196		39		75		38		37	
	n	%	n	%	n	%	n	%	n	%
GENRE										
Females	178	90,8	30	76,9	61	81,3	30	78,9	31	83,8
Males	18	9,2	9	23,1	14	18,6	8	21,2	6	16,2
Totals	196	100	39	100	75	100	38	100	37	100
Mean Age	34,6		36,5		37,5		39,4		35,5*	
SD	12,0		11,5		14,0		13,6		14,4	
Range	10-75		11-61		16-73		16-73		17-68	

*Tukey Multiple Comparison test p=0,20 (non significant).

Table 2 – Dissociation means in the TMDs group with headache (TMD+HA), TMD no headache (TMD-HA), Controls (All), Controls with headache (Controls+HA) and controls without headache (Controls-HA).

	TMD+HA	TMD-HA	Controls	Controls+HA	Controls-HA
Dissociation	N=196	N=39	N=75	N=38	N=37
Mean	17,7	22,0	12,6	14,8	10,5*
SD	13,9	18,5	11,5	13,8	8,0
Range	0----63	4,6---72,1	0---60	0----60	0,4--36,8

*Tukey-Kramer ANOVA with post test p=0.0001, a highly significant difference
TMD+HA vs TMD no HA p>0.05 (non significant)
TMD+HA vs Controls p<0.01 (Significant)
TMD+HA vs Controls +HA p>0.05 (non significant)
TMD+HA vs Controls no HA p<0.01 (Significant)
TMD no HA vs Controls p<0.001 (Significant)
TMD no HA vs Controls HA p<0.05 (Significant)

TMD no HA vs Controls no HA p<0.001 (Significant) l
Controls vs Controls +HA p>0.05 (Non Significant)
Controls vs Controls- HA p>0.05 (Non Significant)
Controls + HA vs Controls no HA p>0.05 (Non Significant)

Table 3 – Frequency of severe dissociation in the control subgroup no headaches, control subgroup + headaches, TMDs subgroup no headache and TMDs subgroup + headache.

	Controls-HA N=37	Controls+HA N=38	TMDS-HA N=39	TMDs+HA N=196
SevereDissociation				
Yes	1=2,7%	4=10,5%	10=25,6%	161=82,1%*
No	36=97,3%	34=89,5%	29=74,4%	35=17,9%
Totals	37=100%	38=100%	39=100%	196=100%

*X-square for independence p=0,03 (Significant):There was a difference in the frequency of severe dissociation in the different subgroups. X- square for trends p=0.02 (Significant): The frequency of severe dissociation increased with the presence of TMDS and/or headaches.
**Fisher´s exact test Controls –HA vs Controls +HA p=0.35 (non significant), Controls-HA vs TMDs-HA p=0.006 (significant), Controls-HA vs TMDs+HA p=0.02 (significant),Controls+HA vs TMDs-HA p=0,13 (non significant),Controls+HA vs TMDs+HA p=0,34 (non significant), TMDs--HA vs TMDs+HA p=0,26 (non significant).

Table 4 – Frequency of severe and extreme bruxing behavior (BX) in TMD patients and controls. Correlation analysis between severity of bruxing behavior and severity of dissociation in TMD patients and controls.

	TMDs+HA		TMDs-HA		Controls		Controls-HA		Controls+HA	
N	196		39		75		37		38	
	n	%	n	%	n	%	n	%	n	%
Severe/extreme Bruxism	126	64,3	17	43,6	11*	14,6	3	8,1	8	21,1
Pearson/ Spearman rho	0,18		0,13		0,28		-0,77		0,53	
p-value	0,03		0,54		0,05		0,33		0,17	
Significant?	Yes		No		Yes		No		No	

*Fisher´exact test comparing TMDs+HA vs TMDs-HA p=0.01, TMDS+HA vs Controls p=0,0001, TMDs-HA vs Controls p=0,001, severe/extreme bruxism in TMDs+HA vs Controls-HA p=0,0001, severe/extreme bruxism in TMDs+HA vs Controls +HA p=0,0001.

Table 5: Trend analysis examining the frequency of severe and extreme bruxing behavior (BX) in four groups.

	Control-HA		Control+HA		TMDs-HA		TMDs+HA	
N	37		38		39		196	
Severe/Extreme BX	n	%	n	%	n	%	n	%
Yes	3	8,1	8	21	17	43,6	125	63,8*
No	34	91,9	30	79	22	56,4	71	36,2
Totals	37	100	38	100	39	100	196	100

*X-square analysis for independence p<0.0001
X – square for trends p<0.0001: There is a significant linear trend among the ordered categories: The frequency of severe and extreme bruxing behavior increased from the control no headache group to the control with headache, TMDs no Headache and TMDs+ headache groups.

DISCUSSION

Dissociation in TMD individuals with or without headache

One objective of the current investigation was to study means in dissociation in TMD patients with/without headache and in non TMD controls. We found higher scores in dissociation in the TMD groups with and without headache as compared to the three controls groups and also in the Control group with headache as compared with the control group without headache. Thus, the results of this study have some support in one investigation (FINK; GOLINKOFF, 1990), indicating that some patients with dissociative disorder may develop a severe frontal headache. There is a close association between somatization, dissociation and headache. These and other disorders may serve as the somatic expression or important indicators of intrapsychic conflict experienced by patients as tension between dissenting alters. Thus, an intense frontal headache with sudden onset may signal another personality´s strong wish to gain access**.**

Headache is the most common neurologic symptom in DID patients and such a disorder is described as blinding and is resistant to standard analgesics (GALBRAITH; NEUBAUER, 2000). Dissociation is closely related to somatization and somatic symptoms observed in dissociative patients include unusual pain tolerance or headaches which come on suddenly and difficulties to respond to psychopharmacological medication (FISHER, 2001). We found that many TMDs patients with headache described their headaches as intense, unbearable and throbbing and one previous study (WINER, 1978), reported that a headache pain described as unbearable, intense and throbbing is a common symptoms in patients with dissociation. Stress or strong emotional reactions can cause hundreds of physiological changes in the body resulting in a variety of physical symptoms including tension headaches, which are extremely common (BRUNS; DISORBIO, 2005). Because not all TMD patients in this study demonstrated nor headaches neither higher scores in dissociation and symptoms of dissociation emerge primarily during periods of strong stress and tension, it may be that not all of them have the same psychological profiles, and respond with different psychophysiological

reactions in the presence of stress. This assumption has support in one study indicating that dissociative individuals adapt to stress in different ways. Some patients get headaches, but some get anxious and become sad (SHULMAN, 1996). In the current investigation, we found a mean DES score of about 17.7 in those TMD and headache subjects and 22.0 in those TMD without headaches. Thus, the results of this study are similar to the mean DES score of 23.8 reported in a previous investigation in depersonalization disorder individuals (BAKER et al., 2003), although researchers did not report the presence or absence of headache.

DES scores between 20 and 30 were observed very frequently in patients with TMDs and headaches in the current study. It may be that psychiatric disorders including somatization and dissociation abound in TMDs and headache patients being observed more frequently with increased duration of headache. This assumption is in accordance with one investigation (DA SILVA et al., 2010), reporting a frequency of 66% psychiatric disorders in a group of patients presenting with many headache types in which there was a frequency of 57.9% of TMDs. Furthermore, psychiatric disorders may promote 40% cases of multiple symptoms including arthritis, rheumatism and headaches (HOTOPF et al., 1998). Even though DES scores of 20 or higher occurred very frequently in those TMD patients with/ without headaches, many of them presented low scores in dissociation. Thus, such findings are echoed by one study (CHU, 1991) indicating that the level of dissociative symptomatology is somewhat variable for many patients.

Severe dissociation

In the current research, it was found that 17,9% and 25,6% of TMDs patients with headache and those TMDs with no headache, respectively, demonstrated severe dissociation. Thus, the frequency of severe dissociation in TMDs with or without headache patients was about 21.7%. Means in severe dissociation in those with TMDs+headache and TMDs no headache were about 38,8 and 47,6 respectively. Dissociation means of about 43,5, 36, 02 and 19,4 were reported previously (ESPIRITO-SANTO; PIO-ABREU, 2009), in subgroups presenting conversion disorder, dissociative disorder and

somatization, respectively, but such groups were different qualitatively, for instance, not all subjects in such groups had TMD signs and symptoms and headaches. Somatization is closely associated with dissociation and depression and many patients with recurrent headaches have somatization of emotions as a component of their problems (OSTÜRK; SAR, 2008). In one study, headache was the most common presentation of somatization (ABBAS, LOVAS; PURDY, 2008). The lifetime prevalence of dissociative disorder is about 11% and dissociation occurs more frequently in women (SAXE et al., 1994). Such frequency is very different from the prevalence of severe dissociation of 17.9% and 25.6% reported in the current study. Such a difference may be explained by differences in methodology and characteristics of the samples being evaluated.

In some studies (COONS 1988; ELKLIT; CHRISTIANSEN, 2009)**,** dissociation has been viewed as a concomitant of multiple symptoms indicating somatization and TMDs individuals have been considered as very vulnerable to stress and tension**.** It may be that more intense and chronic forms of headaches are observed in those patients presenting with severe dissociation who are prone to respond with symptoms under stressful situations. Some support for this assumption comes from one investigation **(**ANDRASIK et al., 1982) indicating that during periods of stress in patients presenting with muscle contraction headache, migraine and combination headache, scores in scale 3 indicative of somatization are elevated.

Based on the results of the current study, we may say that severe dissociation, somatization and depression are present in a relatively large percentage of TMD patients with or without headaches who are usually emotionally disturbed and very vulnerable to stress. This point of view has support in a previous study indicating that severe dissociation is usually the result of amnesia, retained emotions and unbalanced drives which can no longer be repressed (WINER,1978).Additionally dissociation stems from the original personality ´s inability to cope with a stressful situation and headache is the most common somatic symptoms in depressed patients (CHOI et al., 1995**).** Some patients with severe dissociation

may manifest more florid symptoms under conditions of intense stress (CHOI et al., 1995). Furthermore, headache has been correlated with dissociation and somatization in a previous study (ABBAS, LOVAS; PURDY, 2008), TMDs share many etiopathogenic and epidemiological characteristics with functional somatic syndromes and both FSS and TMDs patients with chronic pain demonstrate a tendency to manifest an interior conflict through physical symptoms and pains in multiple sites. Such a conflict is closely related to somatization, dissociation and multiple pains including headaches **(**GLAROS et al., 2005; FANTONI et al., 2007).

Frequency of severe and extreme bruxing behavior

Another goal of this investigation was to assess the frequency of severe and extreme bruxing behavior in those individuals with TMDs with and without headache and to evaluate the correlation between severity of bruxing behavior and severity of dissociation. In the current investigation we report a higher and statistically significant frequency of severe and extreme bruxing behavior in the TMDs group as compared to those with TMDs no headache and to non TMD controls.

The frequencies of severe and extreme bruxing behavior were also higher in those TMDs patients and controls with headaches as compared with TMDs patients with no headaches and controls with no headaches respectively. We report a positive and statistically significant correlation between the severity of bruxism and dissociation in the TMDs and headache group. It may be that severer bruxing behavior is associated with somatization, more frequency of headaches and higher frequency of dissociation. Following this line of reasoning, bruxing behavior has been correlated with anger, anxiety and somatization in one previous investigation (KAMPE et al., 1997).

It may be that anger held inward, more severe bruxism, dissociation, anxiety and somatization are closely interrelated. Additionally, headache is a common disorder in TMDs patients and bruxers. This assumption is strongly supported by a previous study indicating that headache sufferers have been shown to have difficulties regulating anger and many headache patients tend to turn anger inward toward themselves

(ABBAS; LOVAS; PURDY, 2008). Most headache patients in our study presented characteristics of TTH pain and it has been demonstrated that such patients have difficulties in venting out their aggressive impulses and that one subgroup of such patients uses pain as a form of aggression. Headache patients are more more vulnerable to suffer from headaches as they have difficulties in expressing rage and unconscious conflicts associated with aggressive impulses and guilt feelings (PETERSEN; NUNES, 2002). The above assumption has additional support in another research**,** reporting multiple pain sites and higher scores in hysteria in those TMD individuals presenting with severe and extreme bruxing behavior (MOLINA et al., 2008).

Hysteria is closely related with anger held inward, somatization and dissociation. This point of view is reinforced by one investigation reporting that migraine patients subjected to an anger provoking situation exhibited less anger behavior as compared to control individuals **(**NICHOLSON et al., 2003). Additionally, in the above investigation anger turned inward was predictive of headache and many patients in the group reported higher scores in anger – in as compared to non headache individuals.

One investigation (ABBAS; LOVAS; PURDY, 2008), reported that when feelings are frightening, conflicted or deemed unacceptable , they generate anxiety and defence mechanisms that act to blanket the anxiety. In such situations, bruxing behavior may emerge as a way to vent anxiety and anger, thus leading to TMDs signs and symptoms and headaches.

All patients in the TMDs with/without without headached demonstrated signs and symptoms of bruxing behavior. Early investigations have described headache migraine and tension-type headache sufferers as resentful, hostile, chronically tensed and unable to express aggressive feelings in a constructive manner **(**ANDRASIK et al., 1982). However, the relationship between severity of bruxism, headaches and dissociation is still obscure. Parafunctional habits such as clenching or bruxism are sometimes related to psychogenic disorders such as headache, chronic back pain, and irritable bowel syndrome (DIMITROULOS, 1998). Occasionally, TMDs may be the

somatic expression of an underlying psychological or psychiatric disorder such as depression or a conversion disorder. The best clue to this possibility is when a patient´s suffering seems to be excessive or persistent, beyond what would be normal for that condition (DIMITROULOS, 1998).

Nightime bruxism also occurs in those presenting severerbruxing behavior. It may be that such bruxers are more likely to dissociate and express or vent their conflicting emotional states (for instance, rage or anger) during sleep. This assumption has support in one study (BARRETT, 1995) asserting that dream characters are projected parts of the dreamer´self that have been denied expression in the waking personality. In this regard, rage associated with an alter personality may gain more intense expression at nightime rather that at daytime. In this regard, it has been suggested that more intense / destructive bruxing behavior is more likely to occur during REM sleep state (BADER et al., 1997).

Clinical implications in public health: It is considered that there is a high frequency of patients presenting with dependent personality, somatization and dissociation disorders among those attending publich health services in Brazil. Severe dissociation is a major concern in all medical specialisties. Medical expenses in such sub-populations may be very high for public and private health providers. The frequency of severe dissociation in those with with TMDs and headaches (17,9%), TMDs no headache (25,6%), and controls with headache (10,5%) and were considered relatively high in the current study. Because somatization and dissociation are very complex psychological disorders, identification of such sub-groups both in private and public health services may assist health specialists to develop specific treatment strategies to approach such subgroups, thus, with time, such strategies may become more effective decreasing costs and increasing quality of life in private and public health services.

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