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Assessing Dissociation In Craniomandibular Disorders Individuals: Use of Antianxiety and Antidepressant Drugs

Avaliando Dissociação em Pacientes com Transtornos Craniomandibulares: Uso de Ansiolíticos e Antidepressivos

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ABSTRACT

Objective. Develop a system to classify frequency of dissociation in CMD/bruxers, and evaluate the use of antianxiety and antidepressant drugs. **Method.** History of sign/symptoms, clinical examination, muscle /joint palpation, criteria for Craniomandibular disorders (CMDs), severities of bruxing behavior, and the Dissociative Experience Scale (DES), in 243 CMD individuals and 43 controls. A system with scores from 0-10%, 11-19%, 20-29%, 30-39% and 40% or higher was used to classify CMD individuals and controls as presenting no, mild, moderate, severe and very severe dissociation. **Results.** 73,3% and 30,2% CMD and non CMD controls subjects, respectively, demonstrated some degree of dissociation (p<0.0001). Mild and moderate dissociation (55% , 24,2%) occurred more frequently as compared to severe and very severe dissociation (11,8, 9%), in the CMD group. CMD and dissociation individuals demonstrated greater use of antianxiety but not antidepressant drugs than those without (31%, 11,4%, p=0.04) and (62%, 40%, p=0,32). Use of antianxiety and antidepressant drugs increased with the severity of dissociation (p=0,009, p=0.04). **Conclusions.** Dissociation in CMD/bruxing behavior individuals varied greatly, mild and moderate dissociation occurred more frequently, and antidepressants rather than antianxiety drugs were used more frequently in CMD and dissociation patients than in those CMD without dissociation.

Keywords. Craniomandibular Disorders, Dissociation, Drugs, Antidepressants.

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RESUMO

Objetivo. Apresentar método de classificação, avaliar frequência, grau de dissociação em pacientes com Distúrbios craniomandibulares e dissociação e verificar uso de ansiolíticos e antidepressivos. **Método.** Exame clínico, gravidade do bruxismo e a Escala de Experiência de Dissociação, foram aplicados em 243 indivíduos com DCMs e 43 controles. Os indivíduos com DCM e controles foram classificados como portadores de dissociação, ausente, leve, moderada, grave e muito grave. **Resultados.** Os indivíduos com DCM apresentaram mais dissociação do que aqueles sem (73,3% e 30,2% respectivamente e p=0.0001. Os pacientes com graus leve (55%) e moderados (24,2%) foram mais frequentes do que aqueles de graus grave (11,8%) e muito grave (9%). Os indivíduos com DCMs e dissociação usaram mais ansiolíticos do que aqueles sem dissociação (31%) usaram mais ansiolíticos do que aqueles sem dissociacáo (4,6% , p=0.03). Os pacientes com DCMs e dissociação (62%) não usaram mais antidepressivos do que aqueles sem dissociação (40%, p=0.32), mas apresentaram maior uso de antidepressivos do que o grupo controle (62% e 8,3%, p=0,0001). Uso de ansiolíticos e antidepressivos aumentou com a gravidade da dissociação (p=0.009 e p=0.04). **Conclusão.** A frequência de dissociação foi maior no grupo DCM, a dissociação leve e moderada ocorreram mais frequentemente do que a grave e muito grave. Os ansiolíticos foram usados mais frequentemente no grupo DCM com dissociação do que nos grupos DCM sem dissociação e controle.

Unitermos. Transtornos Craniomandibulares, Dissociação, Ansiolíticos, Antidepressivos.

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INTRODUCTION

Craniomandibular Disorders

Craniomandibular Disorders (CMDs), are a heterogeneous group of pathologies affecting the stomatognathic system and related structures, whose complex and diversified etiology generates several diagnostic and taxonomic problems[1]. Patients affected by chronic and painful CMDs share many psychosocial characteristics with subjects presenting other chronic painful syndromes in different body regions and such patients may belong to a group of individuals presenting functional somatic syndromes and psychosocial impairment[2]. It has been recognized that pain perception in CMDs may originate not only from physical stimuli, but from psychic factors which stimulates the brain to modulate the gate control mechanism and to generate pain perception as well[3]. Several investigators have suggested that somatic symptoms occur frequently in CMDs patients and that such individuals may differ on important psychological, psychosocial and behavioral characteristics[4].

Dissociation

Dissociative disorder is the presence of two or more distinct identities or personality states, each with its own enduring pattern of perceiving, relating to and thinking about the environment and the self[5]. Dissociation is the compartmentalization of experience in which elements of a traumatic event are not integrated into a unitary whole, they are stored into isolated fragments and the disorder as a whole, may occur together with somatic symptoms including unusual pain tolerance, headaches[6] including migraine, depression, numerous body complaints, and increased use of different medications, most frequently, anti- anxiety and antidepressant drugs[5].

CMDs have been associated with somatization which refers to the tendency to experience stress in the form of physical symptoms, bodily complaints and/or to experience oneself mainly in physical terms. Furthermore, trauma, dissociation and somatization are interrelated[7]. Traumatic experiences may contribute to dissociation and somatization in the form of hysteria, a complex disorder which has been equated with numerous disorders including CMDs and headaches[8].

Dissociation and Medication

Dissociation is currently considered as a severe psychiatric disorder and antidepressants are used commonly in the treatment of both schizophrenia and dissociation[9]. Because there are various types of headaches occurring frequently in dissociative patients, antidepressants, analgesic, anti-anxiety drugs, and anticonvulsant medication including gabapentin, are used very frequently in such patients[5]. Somatic symptoms occur very frequently in dissociative patients and may affect many different organs and systems[7]. Because in some studies, CMDs have been equated with somatization which is closely related with dissociation, and the literature on this relationships is extremely poor, the objectives of this study are the following:

Develop a grading method to classify the level of dissociation in CMDs and bruxing behavior patients with dissociation;

Assess the use of antianxiety drugs in CMD bruxers with/without dissociation and controls subjects;

Evaluate the use of antidepressant in those with different levels of dissociation.

METHOD

Sample

243 individuals presenting with CMDs and bruxing behavior were referred consecutively over a period of two years to UNIRG, University Center, School of Dentistry, Division of Orofacial Pain and Occlusion, for assessment and treatment. The investigation was approved by the Ethical Committee of the Dental School (005-2012).

Procedure:

The evaluation protocols of such individuals were assessed retrospectively by an expert in the field (OFM). Patients were classified as presenting CMDs if they demonstrated at least three of the following signs, symptoms or behaviors[10]: A complaint of pain in the masticatory muscles and/or TMJs, difficulties to perform normal jaw movements, tenderness to palpation of joint/muscles, joint noises, seeking active treatment for their complaints and headaches of neuromuscular origin. Because we have identified more or less 25 signs and symptoms directly as-

sociated to bruxing behavior, we used such symptoms to classify CMDs patients as presenting mild, moderate, severe and extreme bruxing behavior. Exclusion criteria for CMDs and bruxism were presence of severe psychiatric disorder, severe neurologic disease (for instance, epilepsy, Parkinson disease) and difficulties to understand and respond properly to the questionnaires. Controls were those individuals referred over the same period of time, but not fulfilling the criteria for CMDs and bruxing behavior and most of them did no report a pain complaint.

The Dissociative Experience Scale (DES) is a 28-item self-report instrument developed by Bernstein and Putnam[11], it serves as a screening device for chronic dissociative disorders, and the patient responds to such a scale circling any score ranging from 0% to 100%. A previous study[12] demonstrated that a score of 30 is useful to screen dissociative disorders among general psychiatric patients. Because a previous investigation reported that a cut off score of 30 separates severe from non severe dissociative disorders[13] and lower DES scores should not discourage the clinician to further explore dissociative symptoms[14], in the current study we proposed a more flexible method in which patients presenting 0-10%, 11-19%, 20-29%, 30-39%, 40% or higher scores were classified as presenting no, mild, moderate, severe and very severe dissociation, respectively. 35/65 subjects without dissociation had complete data on history of medication and 113/178 patients with different degrees of dissociation had complete data on history of medication for headache, facial pain and other disorders and were used in the study on anti-anxiety and antidepressant use.

Statistical Analysis

Statistical methods deemed appropriate to analyze data in this study were Fisher´s exact test to assess differences in proportions in those with no dissociation, mild moderate, severe and very severe dissociation and Chi--square statistics for trends to assess differences in anti--anxiety and antidepressants use with the severity of dissociation. Significance was set at $p<0,05$.

RESULTS

Demographic data in 243 CMD/bruxers and 43 controls shows that females predominated in both groups (90.5% and 62.8%) respectively and that mean ages in such groups were 34.4 and 39.4 years old ($p>0,20$), respectively. Regarding age, the difference was not statistically different in these subgroups (Table 1). 73.3% (n=178) in the CMD and bruxing behavior group and 30.2% (n=13) in the control group, demonstrated some degree of dissociation (p=0.0001, Table 2). The frequencies of mild, moderate, severe and very severe dissociation in CMD and control subjects were about 55% and 84.6%% (p=0.04,), 24.2% and 0% (p=0.04,), 11.8% and 15.4% (p=0,65), and 9% and 0% (p=0.60), respectively. 11,4% and 31% of the subgroups without and with dissociation had used antianxiety drugs (p=0.05, Table 3). 11,4% and 4,6% of the groups without dissociation and control , had a history of antianxiety drugs use (p=0,06), and that 31% and 4,6 of the dissociation and controls groups also had a history of antianxiety drugs use (p=0,005), respectively. The frequencies of antidepressant use in the groups without dissociation and with dissociation, without dissociation and controls and with dissociation and controls, were about 40% and 62%, (p=0,32), 40% and 9,3%, (p=0,02) and 62% and 9,3%, (p=0,0001), respectively. The frequency of antianxiety drugs increased from the group without dissociation (8,6%) to the groups presenting mild (15,7%), moderate (16%), severe (38%) and very severe (44%) dissociation (p=0.009, Table 4). Additionally, the history of antidepressant use also increased from the group presenting no dissociation (40%) to the groups presenting mild (35,3%), moderate (40%), severe (43%) and very severe (62,5%) dissociation, respectively, and p=0,04.

DISCUSSION

Different degrees of dissociation in CMD and bruxers

One of the objectives of the current investigation was to develop a method to classify the degrees of dissociation in CMD and bruxing behavior patients. Using such novel method we found that 178 individuals (73.3%) demonstrated some degree of dissociation and 11.8% and 9% demonstrated severe and very severe dissociation respectively. In many studies[1,15] craniomandibular disorders have been viewed as closely related to or as part of a major somatization disorder at least in some individuals. Recent investigations contend that somati-

Table 1
Demographic data on degrees of dissociation in CMD individuals and controls

GENRE	CMDs N: 243		Controls N: 43	
	n	%	n	%
Females	220	90.5	27	62.8
Males	23	9.5	16	37.2
TOTALS	243	100	43	100
Mean age	34.4		39.4	
Standard Deviation	12.3		12.3	
Range	17-63		17-63	

Table 2
Levels of dissociation in CMD+bruxers individuals, CMD non bruxers and controls

	CMD+Bruxers N=243		Non-CMD ornon-bruxers N=43	
	n	%	n	%
No dissociation	65	26,7	30	69.8
With dissociation	178	73.3	13	30.2*
Mild dissociation	98	55.0	11	84.6**
Moderate dissociation	43	24.2	0	0
Severe dissociation	21	11.8	2	15.4
Very severe dissociation	16	9.0	0	0
With dissociation	178	100	13	30.2
TOTALS	243	100	43	100

P<0,05

zation and dissociation are also closely interrelated and that jaw and facial pains in craniomandibular disorder individuals are characterized by the presence of anxiety, depression and other psychiatric disorders[16]. Most subject in the group of CMD patients presented with headaches and TMJ pain and there is an association between headaches, anxiety and depression[17]. Any traumatized individual with or without CMDs signs and symptoms, may have been subjected to different sorts of negative events including abandonment, emotional neglect, physical and sexual abuse, insecure attachment[18] and other events causing psychic pain. If so, the intensity of dissociation may vary from subject to subject. Providing support for these assumptions one study defends the point of view that the quality of attachment and intensity of violence may give rise to different levels of dissociation[18]. Because in the current investigation we found a frequency of 73.3% dissociation and hysteria has been correlated with both somatization and dissociation[7], the results of the current study are supported at least in part in one study contending that most temporomandibular disorder patients are bruxers and a profile characterized by hypochondria, depression and hysteria seems to be frequent in those patients[19]. Because ego plasticity may vary depending on the severity of psychic, physical, emotional trauma and ego maturity at the time of the traumatic event in different individuals and we observed different degrees of dissociation in this group of CMD and bruxing behavior patients, the results of the current study are supported at least in part by one research[20] indicating that simple

Table 3
Use of anti-anxiety and antidepressant drugs in those groups of CMD individuals presenting complete data on CMDs, dissociation and medication use

	Without dissociation N: 35		With dissociation N=113		Controls N:43	
	n	%	n	%	n	%
DRUGS	3	8.6	27	23.9	2	4.6
Antianxiety	4	11,4	35	31,0	2	4,6
Amount	11	31.4	47	41.6	4	9.3
Antidepressants	14	40,0	70	62,0	4	9,3

Table 4
Severity of dissociation and use of anti-anxiety and antidepressant

	DISSOCIATION LEVELS											
DRUGS:	Without N=35		Mild N=51		Moderate N=25		Severe N=21		Very Severe N=16		Controls N=43	
	n	%	n	%	n	%	n	%	n	%	n	%
Anti-anxiety	3	8.6	8	15.7	4	16	8	38	7	44	2	4.6
Amount	0.11		0.23		0.16		0.43		0.62		0.04	
Antidepressant	11	31.4	18	35.3	10	40	9	43	10	62.5	4	9.3
Amount	0.53		0.49		0.64		0.57		1.06		0.09	

and complex dissociative disorders may be observed in some individuals. Some of them may present only some alternate personalities[20] while others may present with dozens of well defined personalities, entities, behaviors and disorders[21]. One problem in making accurate diagnostic assessments with dissociative patients is that the level of dissociative symptoms is somewhat variable for many patients[22].

In a previous study[8], researchers found that the higher the level of bruxing behavior, the higher the scores in somatization, bruxism and hysteria, thus, in many CMD and bruxing behavior patients, CMDs may be a manifestation of hysteria[8]. In such individuals, hysteria, somatization, pain and dissociation may be interrelated, however, the relationship between craniomandibular disorders, pain, hysteria and dissociation needs additional validation studies. Because in a previous investigation[8] severe and extreme bruxers demonstrated higher scores in somatization and hysteria, disorders closely related to dissociation, the results of the current study have support in one research asserting that dissociative disorders may present with somatic symptoms[23]. Because the current study found different intensities of dissociation in CMD individuals, the results of the current study are also in line with one investigation[20] indicating that a continuum of increasingly large amounts of dissociated ego may range from transient psychogenic amnesia to fugue states and depersonalization to partial MPD and to fully developed MPD.

Use of antianxiety drugs

In the current study, we found that only 35 patients (31%) of those presenting some degree of dissociation, reported the use of antianxiety drugs. It may be that the levels of anxiety were low in those with dissociation and/or that clinicians consulted previously were more inclined to prescribe antidepressants rather than antianxiety medication, or even that such professionals are more likely to refer patients for psychotherapy. It may also be that depression rather than anxiety is more likely to be observed clinically in dissociative patients with pain. If so, such patients are more likely to be treated using an-

tidepressants. Providing indirect, yet strong support for this assumption one study[24], reported that those patients with dissociative disorders had more frequent lifetime depressive disorder as compared to non-dissociative controls. Because somatization and dissociation may be closely associated with a dependent personality, antianxiety drugs are best given limited and for short periods of time[25]. Patients with pain and dissociative disorders are more likely to be treated using dynamic psychotherapy[26]. Some patients presenting with somatization and dissociation demonstrate increased skeletal muscle tension, however they may deny or not report anxiety because it is unconscious to them[27], thus, such patients may use less antianxiety than antidepressant drugs. Furthermore, it has been demonstrated that benzodiazepines including alprazolan, are not so effective decreasing some symptoms of dissociation[28].

Antidepressant use in CMD and bruxers

In the current study, we found that 40% (n=14) CMD and bruxing behavior patients without dissociation and 62% (n=70) with dissociation reported a history of antidepressant use, but the difference was not significant (p=0,32). One of the factors that may have contributed to the non significance of the difference in antidepressant use is that most TMJ patients do have somatization, and independent of the presence or absence of dissociation, they use a vast array of medication, thus, decreasing the frequency of antidepressant use between dissociative and non-dissociative CMD individuals. Because all CMD patients in the current investigation had headaches, facial and/or TMJ pain and the prevalence of dissociation and depression was very high, antidepressants may have been prescribed for headaches and depression rather than for dissociation. This assumption has strong support on the observation that chi-square trend analysis demonstrated that the use of antidepressants increased with the severity of dissociation ($p<0.001$). Considering the severity of this psychiatric disorder and its association with depression, we may say that antidepressants are not used so frequently in the therapy of patients with headaches and dissociation. It may also be that the diagnosis of such disorder is not established frequently in the practice of CMD and/or headache management. Dissociation is difficult to recognize and diagnose, because is a condition of hiddenness[20]. Given the complexity of the dissociation and headache dyad, it may also be that the use of antidepressants is not so frequent as clinicians use a wide spectrum of psychological, psychiatric[4] and pharmacologic modalities including antianxiety, sedative-hypnotics, antidepressants, anti-psychotics, and narcotic pain medication[29]. Furthermore, there is no known pharmacotherapy to treat the "core symptoms of MPD"[9]. Antidepressant is definitely, not a common mode of therapy for dissociative disorders[30].

The frequency of antidepressant use found in this study (62%) in CMD patients with pain and dissociation is practically the same as compared to the frequency of 62.1% reported by Ross and Norton[9], and such investigators examined the most severe cases of multiple personality disorders referred by other colleagues, which explains the high frequency of antidepressant use in such a sample. Patients with dissociative disorders use a wide range of treatments and medication including controlled analgesics, antianxiety and antidepressants, major and minor tranquilizers[31], pharmacotherapy for headaches[31] and psychotherapy[32], b-blockers and divalproex sodium[33]. Such approaches may not yield a high frequency use of a particular mode of treatment in samples presenting with headache, craniomandibular and/or psychiatric disorders. When prescribing medication to headache patients with comorbid psychiatric disorders, treatment should be tailored to the characteristics of the headache and the patient's belief and lifestyles[33]. Regarding diagnostic differentiation between various etiologies, there is a need to differentiate dissociative disorder because many dissociative patients are diagnosed as presenting borderline disorder or other cluster B personality disorders. Dissociative patients are also difficult to recognize, because many of them present with symptoms of other disorders and had received on the average 3-4 other diagnosis including depression, borderline disorders, schizophrenia, somatic symptoms, drug abuse and antisocial behaviors[20]. There is a considerable overlap between dissociative disorders and borderline personality disorders and also between borderline disorders and traumatic experiences and neglect in childhood[34]. Dissociation may also be observed frequently in patients with a history of pot-traumatic

stress disorder (PTSD), but diagnosis of PTSD is very difficult due to amnesia[34]. Regarding criteria for treatment, most medications including antidepressants and anxiolytics are prescribed for comorbid anxiety and mood symptoms, but these medications do not specifically treat the dissociation and no pharmacological treatment has been found to reduce dissociation[35]. Because dissociation frequently co-occurs with severe anxiety and depressive symptoms, it is understandable that psychiatrists focus in the use of such drugs in the presence of such associated symptoms[35]. Switching is frequently associated with a high level of stress and severe symptoms of depression, extreme anger or sexual stimulation and thus, constitute a criteria for the use of antianxiety and antidepressant drugs[35]. The different etiologies associated with the presence of dissociation is clearly another criteria for the use and of antianxiety and antidepressant drugs, thus, not all patients are in need of the use of this medication[14].

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