Medical conditions and body pain in patients presenting orofacial pain

Condições médicas e dores corporais em pacientes com dor orofacial

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ABSTRACT

Objective: To verify the frequency of self-reported medical conditions and pain areas in orofacial pain patients, comparing them with patients from the routine dental care. **Methods:** Data were collected from archives of the Orofacial Pain Clinic (Group A, n=319) and of the routine dental care clinics (Group B, n=84) at Faculdade de Odontologia de Araraquara, São Paulo, in Brazil. All individuals answered a standardized clinical questionnaire and completed a body map indicating their pain areas. **Results:** The Mann-Whitney's test demonstrated that Group A presented a higher mean number of medical reports than Group B (p=0.004). In both groups, Pearson's correlation test showed that the highest frequencies of medical conditions were positively correlated to highest frequencies of painful areas (0.478, p=0.001 and 0.246, p=0.000, respectively). **Conclusions:** Group A tended to report more medical conditions and there was a positive correlation between the number of medical conditions and the one of pain areas for both groups.

Key words: temporomandibular joint disorders, orofacial pain, dental care.

RESUMO

Objetivo: Verificar a frequência de problemas médicos autorrelatados e a frequência de áreas de dor no corpo em pacientes com dor orofacial, comparando-os a pacientes submetidos a tratamento odontológico de rotina. **Métodos:** Os dados foram coletados dos arquivos da Clínica de Dor Orofacial (Grupo A, n=319) e de clínicas de tratamento odontológico rotineiro (Grupo B, n=84) da Faculdade de Odontologia de Araraquara, São Paulo, Brasil. Os indivíduos responderam a questionários e preencheram um mapa corporal indicando os locais de dor. **Resultados:** O teste de Mann-Whitney demonstrou que o Grupo A apresentou uma média de relatos de problemas médicos superior ao Grupo B (p=0,004). Para ambos os grupos, o teste de correlação de Pearson demonstrou correlação positiva entre os problemas médicos e a frequência de áreas dolorosas (respectivamente, 0,478, p=0,001 e 0,246, p=0,000). **Conclusões:** O Grupo A relatou maior número de problemas médicos e houve correlação positiva entre a frequência desses problemas e a de áreas de dor para ambos os grupos.

Palavras-Chave: transtornos da articulação temporomandibular, dor orofacial, tratamento odontológico.

Some studies have reported an association between orofacial pain, medical conditions, and body pain. Furthermore, the prevalence of comorbidities in orofacial pain patients, other than some specific psychological disturbances and generalized musculoskeletal disorders, has been described in several studies[1-4].

When patients present to the dental office with orofacial pain complaints, it is essential to understand the cause of the main complaint and to perform a thorough examination that will lead to the correct diagnosis and appropriate treatment. Understanding the possible medical conditions associated with orofacial pain is essential for a proper diagnosis[5]. Equally, the presence of medical conditions may influence and limit the treatment options, as so treatment outcomes[6].

Thus, considering the importance of medical conditions and body pain, the present study was conducted to verify the frequency of self-reported medical conditions in orofacial pain patients (Group A), as well as the one of reported body pain areas, comparing them with patients that sought routine dental treatment (Group B). The study hypothesis is that patients in Group A tend to report a higher number of medical conditions and more body pain than Group B does.

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METHODS

Data description

Data were collected from the Orofacial Pain Clinic archive records (Group A: 272 women and 47 men, mean age 35.2 years-old) of Araraquara Dental School of Universidade Estadual Paulista (UNESP), from patients examined in a period of two years (from 2004 until 2006). In addition, archive records from individuals that sought routine dental care treatment at the same school (Group B: 63 women and 21 men, mean age of 37.1 years-old) were included as a comparing group. Data were excluded if missing information did not allow comparisons. This study was approved by the Ethics Committee of Research of Araraquara Dental School (number of the protocol approval CAAE 0019.0.199.000-05).

Questionnaires

Standardized questions were applied in both groups by trained graduate students. The questions comprised an interview and a systematic evaluation of cervical, cranial, facial, dental, and other oral structures, according to the following specialized diagnostic instruments available:

A clinical protocol was applied based on the American Academy of Orofacial Pain (AAOP) classification[7] and on the International Classification for Headache Disorders (ICHD-I)[8], to detail: the main complaint; the general pain characteristics of the main complaint (location, intensity, quality, duration, time of pain worsening); the presence of headache and body pain complaints; and the patient's medical history, comprising medical conditions grouped in categories according to the physiologic system involved (cardiovascular, hematologic, neurological, gastrointestinal, pulmonary, dermal, musculoskeletal, endocrine, and genitourinary). Attributed diagnoses were also based on the AAOP classification[7] and on the ICHD-I[8].

Pain drawings: After the interview, patients were requested to mark all pain sites on a sketch of the human body. Nine potential pain sites (head, face, neck, shoulders, arms, chest, abdomen, back, and legs) could be distinguished[9,10].

Statistical analysis

Descriptive statistics were used to characterize the sample, considering the number of medical conditions and painful areas mentioned by individuals. The χ^2 test was used for comparison. The significance level adopted was 5%. Mann-Whitney's test was used to compare the age, the number of medical conditions and the sites of pain. Pearson's correlation was used to correlate the number of painful areas and medical conditions. The data were analyzed using the SPSS program, version 11.0 for Windows.

RESULTS

The demographic data are described in Table 1. In Group A, the most common attributed diagnosis was temporomandibular disorder (TMD) (n=292, 91.5%), followed by dental pain (n=16, 5.0%). Other diagnoses counted less than 3% of the total sample, and included primary headaches (n=6, 1.2%), neuropathic pain (n=2, 0.6%), and atypical facial pain (n=3, 0.9%).

As shown in Table 2, even though Group A was part of a clinical sample of orofacial pain patients, 9.2% did not mark pain in the facial region. On the other hand, although Group B patients sought routine dental treatment, 35.7% of them pointed face as a pain area on the body map. For other body pain areas, there were no statistically significant differences between Groups A and B, except for the face, as expected.

The most frequently reported medical conditions for Groups A and B are described in Table 3. There were no statistically significant differences between the two groups, except for urinary tract infection, which was more frequent in Group B. Overall, the five most commonly reported conditions for both groups were

Table 1. Sample demographic data (n=403).

Number of cases	Group A (%)		Group B (%)		Total
	Female**	Male	Female	Male	
	272 (85.3)	47 (14.7)	63 (75.0)	21 (25.0)	403 (100.0)
Mean age (min-max)*	35.2 (18–74)		37.1 (18–66)		35.6 (18–74)
Total (%)	319 (100.0)		84 (100.0)		403 (100.0)

*No statistical significance shown by Mann-Whitney's test: p=0.167; **Significance of χ^2 test: p=0.025.

Table 2. Frequency of pain areas according to body pain maps (n=403).

Pain areas	Group A (n=319)	Group B (n=84)	Total (n=403)	p-value
Face	293 (91.8%)	30 (35.7%)	323 (80.1%)	0.000*
Head	212 (66.4%)	32 (38.1%)	244 (60.5%)	0.575
Neck	200 (62.7%)	27 (32.1%)	227 (56.3%)	0.925
Shoulder	112 (35.1%)	13 (15.5%)	125 (31.0%)	0.732
Back	80 (25.1%)	13 (15.5%)	93 (23.1%)	0.732
Legs	46 (14.4%)	6 (7.1%)	55 (13.6%)	0.849
Arms	33 (10.3%)	3 (3.6%)	36 (8.9%)	0.717
Chest	18 (5.6%)	1 (1.2%)	19 (4.7%)	0.600
Abdomen	12 (3.8%)	3 (3.6%)	15 (3.7%)	0.575

*Significance of χ^2 test.

anemia, urinary tract infection, hypertension, rheumatoid arthritis, and gastric ulcer.

Table 4 shows that although there were no statistically significant differences between the two groups for isolated frequency of each medical condition, when considering the mean frequency of medical conditions reported by Groups A (n=319) and B (n=84), Mann-Whitney's test showed statistically significant difference (p=0.004). Group A presented higher mean frequency of reports than Group B. For both groups, Pearson's correlation test showed that the highest frequencies of medical conditions were positively correlated to the highest frequencies of painful areas (0.478, p=0.001 and 0.246, p=0.000, respectively).

DISCUSSION

Assessing the medical history of each patient in a health care service should be a routine practice. It is very important to have an overview of past and present medical conditions for proper diagnosis and treatment, since several studies have reported an association between orofacial pain, general medical diseases or disorders, and general pain conditions[4,10-15].

Although in Group A TMD was the most common diagnosis for orofacial pain complaints, according to body pain maps, part of this group did not mark the facial region. Probably, it referred to individuals who sought the clinic presenting pain complaints, but not specifically located on the face (e.g., headaches only). Our data corroborate that TMD reflects the most common type of chronic orofacial pain referred to dentists[6,7]. According to literature, many patients with TMD and orofacial pain report pain outside the masticatory system[12,14-16]. However, in the present study, the mean number of reported pain areas presented no statistically significant differences between the two groups. Facial, head, and neck pain complaints were commonly reported in both groups. Statistically significant difference was only detected for facial pain report, probably because, in Group A, patients were seen at an orofacial pain clinic.

According to literature, medical conditions that have presented associations with orofacial pain include: headache[17-20], fibromyalgia[21-22], gastrointestinal disorders[2,15], psychological distress[14] and psychiatric diseases[2], cardiovascular diseases[23,24], and rheumatoid arthritis[25]. However, in general, the present study only confirmed urinary tract infection as a statistical significant difference between groups.

When considering gender, in both groups, women presented greater demand for treatment than men (respectively 6:1 and 3:1). In agreement with the literature, women were mostly referred to the Orofacial Pain Clinic (Group A) in comparison to routine dental care treatment (Group B), probably because TMD is more common in women than in men[26,27]. Women are at higher risk for developing diseases such as osteoporosis and rheumatoid arthritis, all of which may have implications on their oral health[28]. Also, women are at greater risk for developing chronic pain conditions[29]. However, in our results, gender differences in number did not influence the frequency of medical conditions on each group. Although Group A presented two times more women thanB, the first reported numerous medical conditions as did the latter.

The last find is related to the mean frequency of medical conditions reported by groups. According to literature, adverse response to illness is common in chronic pain patients, and orofacial pain syndromes may commonly be a manifestation of a process of somatization[4,13]. The medical conditions observed may also be due to a central sensitization process, since, for both groups, the highest frequencies of medical conditions were positively correlated to the ones of painful body areas. When central sensitization is established, many conditions can affect

Table 3. Frequency of medical conditions according to Groups A (n=319) and B (n=84).

Medical conditions	Group A (n=319)	Group B (n=84)	Total (n=403)	p-value
Anemia	64 (20.1%)	12 (14.3%)	76 (18.8%)	0.295
Urinary tract infection	63 (19.7%)	26 (30.9%)	89 (22.1%)	0.034*
Hypertension	47 (14.7%)	16 (19.0%)	63 (15.6%)	0.424
Rheumatoid arthritis	39 (12.2%)	7 (8.3%)	46 (11.4%)	0.421
Stomach ulcer	37 (11.6%)	10 (11.9%)	47 (11.7%)	0.910
Kidney disease	37 (11.6%)	7 (8.3%)	44 (10.9%)	0.511
Tumors	25 (7.8%)	3 (3.6%)	28 (6.9%)	0.260
Thyroid disorders	20 (6.3%)	3 (3.6%)	23 (5.7%)	0.256
Neuralgia	21 (6.6%)	2 (2.4%)	23 (5.7%)	0.107
Hepatitis	20 (6.3%)	3 (3.6%)	23 (5.7%)	0.256
Asthma	12 (3.8%)	4 (4.8%)	16 (4.0%)	0.776
Osteoporosis	14 (4.4%)	1 (1.2%)	15 (3.7%)	0.144
Diabetes	10 (3.1%)	5 (5.9%)	15 (3.7%)	0.931

*Significance of χ^2 test.

Table 4. Means (SD) for medical conditions and pain areas according to facial pain complaint.

Number of cases	Group A (n=319)	Group B (n=84)	Total (n=403)	p-value
Medical conditions	2.10 (1.42%)	1.54 (1.66%)	1.99 (1.63%)	0.004*
Pain areas	3.26 (1.67%)	3.05 (1.89%)	3.23 (1.70%)	0.337

SD: standard deviation; *Significance of Mann-Whitney's test.

different body systems and cause concomitant health diseases[22]. Furthermore, patients with chronic orofacial pain reported wider distribution of pain areas, which can affect patients' shoulders, back, and extremities[4]. Probably, that is why Group A presented a higher mean frequency of reports than Group B. It seems that in the presence of chronic pain, the integrative nociceptive framework is disrupted, contributing to the generation and maintenance of pain experiences[30].

Some of the methodological considerations about the present study deserve attention. First, the results of this study cannot be extended to the general population, because we restricted the study sample to patients that sought public health treatment at a dental school. Secondly, the questions used were based on the AAOP[7] and ICHD-I[8], since these criteria were available when examinations were performed. Moreover, because the medical history questionnaire was based on self-reports, it may have generated inaccuracies; however, potential inaccuracies may be similarly expected in both groups.

The present study provided some evidence that patients with TMD seen at an Orofacial Pain Clinic reported important medical conditions as did patients that sought routine dental care. However, orofacial pain patients tended to report higher mean number of medical conditions than those who sought routine dental care. Still, the present study showed a positive correlation between the number of medical conditions reported and the one of pain areas, for both groups. Although this positive correlation cannot be justified in the present study, future studies investigating similarities in reported medical conditions in individuals with and without orofacial pain may clarify whether these conditions share common physiopathological mechanisms. As suggested, future research should adopt a multidisciplinary approach to orofacial pain.

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