

Statement of the 1st Consensus on Temporomandibular Disorders and Orofacial Pain

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Abstract

This Statement of the 1st Consensus on Temporomandibular Disorders and Orofacial Pain* was created with the purpose of substituting controversies for scientific evidence within this specialty field of dentistry. The document provides clear and well-grounded guidance to dentists and other health professionals about the care required by patients both in the process of differential diagnosis and during the stage when they undergo treatment to control pain and dysfunction. The Statement was approved in January 2010 at a meeting held during the International Dental Congress of São Paulo and draws together the views of Brazil's most respected professionals in the specialty of Temporomandibular Disorders and Orofacial Pain.

Keywords: Bruxism. TMJ. Temporomandibular joint disorders. Headache. Dentistry. Cervicalgia (neck pain).

INTRODUCTION

By definition, orofacial pain is any pain associated with soft and mineralized tissues (skin, blood vessels, bones, teeth, glands or muscles) of the oral cavity and face. This pain can usually be referred to the head and/or neck region or even be associated with cervicalgia (neck pain), primary headaches and rheumatic diseases such as fibromyalgia and rheumatoid arthritis.1

The main sources of orofacial pain are odon-

togenic problems, headaches, neurogenic diseases, musculoskeletal pain, psychogenic pain, cancer, infections, autoimmune phenomena and tissue trauma.1

Historically, dentistry has been geared primarily to the diagnosis and treatment of odontogenic—pulp and periodontal—pain. We should not, however, neglect to identify other sources of orofacial pain, such as typical inflammatory processes (sinusitis, parotitis),

^{*} Note from the rapporteurs: Although the Federal Council of Dentistry designates the specialty, in Portuguese, with the term "Têmporo-mandibular", its correct spelling is still under debate. A query on the website of the Brazilian Academy of Letters (www.academia.org.br) yielded the alternative "Temporomandibular" and no mention of the hyphenated spelling. For this reason, this is the term used throughout the Portuguese version of this document, as we anticipate that, in future, it will go into force as the official designation.

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continuous or intermittent neuropathic pain (neuralgia, deafferentation pain, sympathetically maintained pain), headache and temporomandibular disorder.

Referring orofacial pain patients, as speedily as possible, to the appropriate therapist is an integral part of the quality of care provided by health professionals. Any professional willing to treat these patients must possess an in-depth knowledge of the differential diagnosis of orofacial pain and its subtypes, and apply evidencebased techniques to control the symptoms.

Orofacial pain is highly prevalent in the population. It causes patients great suffering and can, moreover, stem from life-threatening diseases. Hence the crucial importance of dentists in conducting an appropriate diagnostic process.

It has been estimated that approximately 22% of the population presented with at least one type of orofacial pain in the 6 months prior to data collection.² The most frequent cause of orofacial pain pointed out in that study had an odontogenic origin (12.2%), followed by temporomandibular disorders (TMD), found in 5.3% of the population.

From now on, this Statement will be focusing on the discussion of temporomandibular disorder.

DEFINITION OF TEMPOROMANDIBULAR DISORDER (TMD)

According to the American Academy of Orofacial Pain, TMD is defined as a group of disorders involving the masticatory muscles, the temporomandibular joint (TMJ) and associated structures.1

The symptoms most often reported by patients include pain in the face, TMJ, masticatory muscles and pain in the head and ear. Other symptoms reported by patients are ear manifestations such as tinnitus, ear fullness and vertigo.1

The signs are primarily muscle and TMJ tenderness to palpation, limitation and/or incoordination of mandibular movements and joint noises.1

EPIDEMIOLOGY

Epidemiological studies estimate that 40% to 75% of the population have at least one TMD sign, such as TMJ noises, and 33%, at least one symptom such as pain in the face or TMJ. 1

Few studies in Brazil have assessed the prevalence of TMD signs and symptoms in population samples. A recent study found that 37.5% of the population had at least one TMD symptom.³ An estimated 41.3% to 68.6% of college students showed at least one TMD sign or symptom.⁴⁻⁷

There is a difference between the prevalence of TMD signs and symptoms in the population and the actual need to treat these individuals. In a systematic review and meta-analysis published recently, the prevalence of treatment need for TMD in the adult population was estimated at 15.6%, while the estimates for the vounger population, 19 to 45 years, was higher than for older adults (above 46 years old).8

Factors such as a dearth of studies, the diversity of features found in the samples and the methodology used to determine TMD signs and symptoms preclude the extrapolation of results to the entire Brazilian population. It is important that a national study with appropriate methodology be conducted to gain knowledge of the actual situation. It would be of vital importance to include TMD and other non-dental diseases whose symptoms are characterized by orofacial pain in the "Survey of oral health conditions among the Brazilian population", conducted by the Ministry of Health.

DIAGNOSIS

No reliable method currently exists that can be unconditionally used by researchers and clinicians to diagnose and measure the presence and severity of temporomandibular disorders. For diagnosis of individual cases, patient history (anamnesis) remains the most important step in formulating the initial diagnostic impression.

Physical examination, comprising muscle and TMJ palpation, measurement of active mandibular movements and joint noise analysis—when performed by calibrated, welltrained professionals—is an invaluable instrument in the diagnosis and therapy planning, as well as in monitoring the efficacy of proposed treatments.1

Ancillary diagnostic methods such as polysomnography (PSG) and TMJ images are considered auxiliary means that prove useful only in some individual cases and in research work.^{9,10,11} No direct association has been made, however, between the results of such tests and the presence of TMD signs and symptoms.

In clinical practice, the initial evaluation questionnaire should include some questions concerning TMD signs and symptoms. Any positive response to these questions may signal the need for thorough evaluation by a professional specialized in TMD and Orofacial Pain (Table 1).

DIAGNOSTIC CLASSIFICATION OF TMD'S

The American Academy of Orofacial Pain (AAOP) recently established, in the 4th edition of its manual, new guidelines for the diagnosis and classification of different forms of TMD, which are divided into two major groups (Muscular TMD and Articular TMD) with their respective subdivisions (Tables 2 and 3).1

The International Classification of Headache Disorders (ICH) of the International Headache Society (IHS) includes a specific type of headache secondary to TMD in its 11th class (IHS 11.7 - Headache or facial pain attributed to TMJ disorder).12

- 1 Do you have trouble, pain or both when opening the mouth, to yawn for example?
- 2 Does your jaw get "locked", "stuck" or does it "drop"?
- 3 Do you have difficulty, pain or both, when chewing, talking or using the jaws?
- 4 Have you noticed any noises in the jaw joints?
- 5 Do you usually feel your jaw tired, stiff or tense?
- 6 Do you have any pain in the ears, temples or cheeks?
- 7 Do you often have headaches, neck pain or
- 8 Did you recently suffer any trauma to the head, neck or jaw?
- 9 Have you noticed any recent change in your bite?
- 10 Have you received any previous treatment for unexplained facial pain or a jaw joint problem?

TABLE 1 - Examples of questions to screen patients for possible signs and symptoms of temporomandibular disorder. Source: Leeuw¹, 2010.

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11.7.1.1.1 - Disc displacement with reduction

11.7.1.1.2 - Disc displacement without reduction

11.7.1.2 - TMJ displacements

11.7.1.3 - Inflammatory disorders

11.7.1.3.1 - Synovitis and capsulitis

11.7.1.3.2 - Polyarthritis

11.7.1.4 - Non-inflammatory disorders

11.7.1.4.1 - Primary osteoarthritis

11.7.1.4.2 - Secondary osteoarthritis

11.7.1.5 - Ankylosis

11.7.1.6 - Fracture (condylar process)

TABLE 2 - Recommended changes in the IHS 11.7.1 diagnostic classification: Headache or facial pain attributed to TMJ dysfunction. Source: Leeuw¹, 2010.

11.7.2.1 - Local myalgia

11.7.2.2 - Myofascial pain

11.7.2.3 - Centrally mediated myalgia

11.7.2.4 - Miospasms

11.7.2.5 - Myositis

11.7.2.6 - Myofibrotic contracture

11.7.2.7 - Neoplasia

TABLE 3 - Recommended changes in the IHS 11.7.2 diagnostic classification: Headache or facial pain attributed to masticatory muscle dys-

Source: Leeuw¹, 2010.

However, this seems incomplete because it does not address the two major TMD groups and their subtypes, as described in the AAOP classification. In this regard, it is noteworthy that the AAOP has issued a proposal to the IHS to modify that ICH item (Tables 2 and 3), so far unsuccessfully.

ETIOLOGY

The attempt to identify a clear and universal TMD cause has not as vet proved successful. Recent studies have concluded that TMD's have a multifactorial origin.

To be complete, a medical history should identify predisposing factors (which increase the risk of TMD), trigger factors (which cause the installation of TMD) and perpetuating factors (which interfere with TMD control). Among these factors we will mention those that are, in principle, more relevant.1

Trauma

- Direct trauma or macrotrauma.
- Indirect trauma: Represented by whiplash injuries.
- Microtrauma: Caused by minor trauma performed repetitively, such as parafunctional habits (bruxism, teeth clenching, etc.).

Psychosocial factors

Anxiety, depression, etc.

Physiopathological factors

- Systemic factors: degenerative, endocrine, infectious, metabolic, neoplastic, neurological, vascular and rheumatological diseases.
- Local factors: change in synovial fluid viscosity, increased intra-articular pressure, oxidative stress, etc.
- Genetic factors: presence of haplotypes associated with soreness.

Researchers and clinicians specializing in orofacial pain have reached consensus that dental occlusion can no longer be considered a primary factor in the etiology of TMD. 13-17 Some occlusal relationship factors are cited as predisposing to TMD. These studies, however, show that the correction of these factors in symptomatic individuals has shown little effectiveness in controlling TMD. 18,19,20

This scientific fact, however, does not diminish the importance of occlusion in the practice of dentistry. Occlusal pathologies produce significant aesthetic and functional effects on the masticatory apparatus. Dental surgeons must pay special attention to occlusion when performing physical examination or any clinical procedure.

TREATMENT

Scientific advances in this area require professionals to be continually upgrading their knowledge. Inappropriate therapies can cause iatrogenic complications, allow chronicity of pain and induce patients to mistakenly believe that their disease should be treated by a professional from another specialty.

The goal of TMD treatment is to control pain, restore masticatory apparatus function, re-educate patients and minimize adverse loads that perpetuate the problem.

The fact that the etiology of TMD is unknown and its character self-limiting recommends the initial use of noninvasive and reversible therapies, whose efficiency has proved extremely high in TMD patients.

Some studies report the control of signs and symptoms in more than 90% of patients receiving conservative treatment. Patient education, self-management, behavioral intervention, use of drugs, interocclusal splints, physical therapy, postural training and exercises make up the list of options applicable to almost all TMD cases.²¹⁻²⁵

The practice of Evidence-Based Dentistry (EBD) does not support the prescription of techniques that promote complex and irreversible changes such as occlusal adjustment by selective grinding, orthodontic therapy, functional orthopedics, orthognathic surgery or prosthetic oral rehabilitation techniques, in the treatment of temporomandibular disorder. 19

TMJ surgery can prove necessary in a few specific cases, such as ankylosis, fractures and certain congenital or developmental disorders. In exceptional cases, it can be applied to complement the treatment of internal TMJ disorders. 1,26

RESPONSIBILITIES TOWARDS TMD PATIENTS

Some factors can clearly explain the reasons why more attention should be given to temporomandibular disorders: high prevalence in the population, significant social cost and, especially, substantial personal cost.

Currently, TMD and orofacial pain are not mandatory topics of discussion in the curriculum of educational institutions. Such disregard leads to the inadequate training of dental surgeons in recognizing and guiding TMD patients. An incomplete semiology denies patients the opportunity to have an appropriate treatment with improvement in their quality of life.

Few public policies are currently aimed at raising awareness of TMD and treating TMD patients. In this respect, the health care service provided by the state is negligible. This lack of assistance and information invariably frustrates patients, leading them to a wild goose chase for other specialties that treat similar symptoms, but do not promote proper control of TMD. The specialty called Temporomandibular Disorders and Orofacial Pain, regulated by the Federal Council of Dentistry, has been all but forgotten within the scope of oral health.

It is also important to underscore that the procedures geared to the treatment of TMD are not included in the fee schedules published by unions, dentistry associations and health plans. This omission can undermine the relationship between professionals and patients as well as hinder the dissemination of appropriate treatment techniques to professionals in other specialties.

Regarding service provider liability in the field of orofacial pain, agreements enforce obligations to provide therapeutic means but not necessarily results. The reason being that even when a professional makes use of all resources available in the scientific literature, these may not produce the desired results. The existence of refractory patients is quite common in the management of chronic diseases.

Service provision proposals, however, must inform patients that the resources are aimed at reducing levels of pain, improving quality of life and restoring function.

FINAL CONSIDERATIONS

The TMD and Orofacial Pain specialty was created in 2002 by the Brazilian Federal Council of Dentistry. Nonetheless, even among health professionals this specialty is still quite unknown. The need to include the TMD and Orofacial Pain discipline in the curriculum of undergraduate Dentistry courses is not only vital but urgent. The acknowledgement and support of the authorities that manage public health policies are necessary if primary care to patients with orofacial pain is to be effectively implemented. These measures will reduce the suffering and financial burden of these individuals.

Protocols or continuing education courses that support the use of occlusal therapy as a form of definitive treatment to control the signs and symptoms of TMD should be regarded as unscientific practice.

Research on orofacial pain has contributed to improve treatments, but it is essential that new studies elucidate important issues and that the other dental specialties absorb and support these new achievements.

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