Article **ECORFAN Journal Republic of Guatemala**
December 2018 Vol.4 No.7 1-14

Prevalence of Temporomandibular Disorders in two Populations, Interned and Pacients de la University 2015

Prevalencia de Trastornos Temporomandibulares en dos Poblaciones, Cautivas y Pacientes de la Universidad Autonoma de Campeche 2015

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Received September 12, 2018; Accepted November 30, 2018

Abstrat

The preservation of health is of the utmost importance for personal development in our current world, there are pathologies that affect the correct functioning of the human body and therefore the health of the persons. General purpose: To determine the epidemiological profile of temporomandibular disorders in two populations: a University population and the interned subjects of a Social Readaptation Center. One of the outstanding pathologies and object of studyin the dental field are the temporomandibular disorders. The sample was obtained by means of a formula for size of finite samples because the size of both populations was known and in total there were 441. The molar ratio of group 1 was explored, with class I molar in 57.6% (110 subjects), class II in 2.1% (4 subjects) and class III in .5% (1 subject). The location of the subjects of the Autonomous University of Campeche and the inmates of Cereso is in the city of San Francisco de Campeche, capital of the state of Campeche, Mexico. This study shows that the interned population of the Social Readaptation Center was more affected than the university population.

Dental Prosthesis, Oral Health, Dental Loss

Resumen

La preservación de la salud es importante para el desarrollo personal en nuestro mundo actual, existen un sinfín de patologías que afectan el correcto funcionamiento del cuerpo humano y por lo tanto la salud de las personas. Objetivo general. Determinar el perfil epidemiológicodetrastornos temporomandibulares en dos poblaciones: una población Universitaria y los sujetos internos de un Centro de Readaptación Social. Una de las patologías sobresalientes y objeto de estudio en el ámbito odontológico son los trastornos temporomandibulares. La muestra se obtuvo por medio de la fórmula para tamaño de muestras finitas porque se conocía el tamaño de ambas poblaciones y en total fueron 441. Se exploró la relación molar del grupo 1 encontrándose clase I molar en 57.6% (110 sujetos), clase II en 2.1% (4 sujetos) y clae III .5% (1 sujeto). La ubicación de los sujetos de la Universidad Autónoma de Campeche y los internos del Cereso es en la ciudad de San Francisco de Campeche, capital del estado de Campeche, México. Éste estudio muestra que la población interna del Centro de Readaptación Social estuvo más afectada que la población universitaria.

Protesis Dental, Salud Oral, Pérdida Dentaria

Citation: OROZCO-RODRÍGUEZ, Angel Ruben, ROSADO-VILA, Graciella, VIDAL-PAREDES, Jorge y SANSORES-AMBROSIO, Fatima. Prevalence of Temporomandibular Disorders in two Populations, Interned and Pacients de la University 2015. ECORFAN Journal-Republic of Guatemala. 2018, 4-7: 1-14.

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1 Introduction

The preservation of health is of utmost importance for personal development in our current world, there are endless general pathologies that affect the correct functioning of the human body and therefore the health of people. In dentistry we can find many situations that can alter the health of the organism, from mild conditions to complex situations such as temporomandibular disorders as mentioned in the literature, affect a large part of the population without distinction of race, sex and age.

The stomatognático system is formed by diverse components that working in harmony achieve one of the main functions of the human body being the mouth the main organ for the beginning of the mastication.

Ingestion, digestion, use of nutrients for the body to function properly and thus can develop; so the alteration of any of the components of this system will affect the health of the individual. Oral pathologies in the outstanding dental field are the temporomandibular disorders.

The temporomandibular joint is a bilateral articulation that guides the chewing movements having as limit the teeth is formed by several components such as: condyle, mandibular fossa, articular eminence, articular disc, muscles, tissues, these structures function normally in neuromuscular balance and can be altered; producing pain, joint noises, limitation of mandibular movements, manifestations tolerated many times by the individual without presenting consequences, but in others a series of signs and symptoms is triggered that in this way affect the patient's health.

It has been shown that factors such as anxiety and stress can trigger the development of temporomandibular disorders; In this work two populations with different stress and anxiety situations were studied, which together with particular oral conditions show the health or pathology of the joint in these subjects.

1.1 Problem Statement

According to WHO, dental caries and periodontal diseases are the two major public health problems in the world. For a long time, epidemiological studies have reported prevalence and distribution where they are related to general factors that favor it; the dysfunction of the mandibular temporoid articulation, malocclusions that has been recently increased in its prevalence, has less time of study where less research has been done in developing countries like Mexico and in captive populations being the main objective for the development of this work Okesson describes the general factors: weakened health, general diseases of muscles, joints, psychosocial psychological factors, local factors, occlusal interferences, parafunctional activities such as bruxism or traumas.

It is of utmost importance to mention that any condition of dental origin can affect the general health of people as their functionality common oral problems such as: gingivitis, dental infections, oral trauma to complex situations such as disorders of the temporomandibular joint. Faced with this situation, the affectation can generate physiological changes in the masticatory process, firstly, the distribution of the disease in different types of population should be known, differentiate the probable risk factors that lead a population to suffer disorders of the temporomandibular joint.

Von Korff et al concludes that the prevalence of temporomandibular joint pain tends to decrease with age. Emphasizing the problem in this population entails presenting an articular dysfunction that generates systemic diseases related to oral diseases that in the clinical investigations carried out in other epidemiological studies have shown. The results of this work are intended to respond to the following approach: What is the prevalence of temporomandibular disorders in two populations, captive and university?

1.2 Justification

The temporomandibular disorders every day occur more frequently and without distinction of population groups causing severe disorders in the oral system physiology, however, there are certain individuals who are more vulnerable to these conditions.

ISSN-On line: 2414-8849

The literature around the world reflects this problem that represents a high cost at the institutional level, so in many cases the problem is not adequately addressed. I emphasize the fact that oral health professionals will have to document to be able to make an accurate diagnosis and establish the treatment that allows the rehabilitation of the subject.

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2 Theoretical Framework

Anatomofunctional bases of temporomandibular disorders. The masticatory system is formed by teeth, bones, muscles and ligaments, with a neurological control system that regulates and coordinates all these structural components. The structure in which the craniomandibular connection is produced is called the temporomandibular joint.

The temporo mandibular joint is a synovial joint that has several characteristics. They perform arthrodial sliding movements, hinge movements that are performed in a ginglimoid plane is a bilateral joint, its articular surfaces are covered by fibrous tissue and not hyaline cartilage and acts as a guide to masticatory movements with the teeth as limit. The tempromandibular joint provides articulation between the mandible via the condyle and the cranium via the temporal bone, particularly the mandibular fossa and the articular eminence. The disc of the temporomandibular joint is between the condyle and the fossa, separating them from a direct joint. The disc is composed of dense fibrous connective tissue and divides the joint into two compartments, one upper and one lower.

The disk in turn is divided into three regions, based on its thickness and viewed from a lateral perspective: a thick anterior zone, a thin intermediate zone and a thick posterior. The temporomandibular joint is a very complex joint system, it contains two separate synovial joint cavities, which must work in unison. The fibrous capsule marks the anatomical and functional limits of the joint, encompasses the condyle and fuses with the periosteum of the condylar neck. The capsule is formed by two layers: an outer fibrous layer and an internal layer of synovial tissue, this produces the synovial fluid that has three functions: lubricant because it reduces the friction between the joint surfaces and nutrient of the avascular tissue of the joint surfaces and the disc, as well as removing detritus from joint spaces.

The temporomandibular joint has an intracapsular disc that divides the synovial cavity into two compartments that usually do not communicate. In the newborn, the disc has the same thickness, although when the temporomandibular joint begins the function, the disc adapts to the shapes of the joint surfaces during rest and movement forming a central part thinner than the ends called posterior bands, central and previous. The disc adapts to all positions of the condyle.

The temporomandibular joint is innervated by the auriculotemporal nerve that is sensitive, the masseter nerve and the posterior deep temporal nerves that are motor nerves. The temporomandibular joint is irrigated by the superficial temporal artery in the posterior part, the middle meningeal artery in the anterior part and the internal maxillary artery in the inferior part. The condyle receives vascularization of the inferior alveolar artery through the medullary spaces. These structures normally function in neuromuscular balance and can be altered, producing pain, joint noises, limited mandibular movements, being tolerated many times by the individual, without presenting consequences, but in others a series of signs and symptoms that mainly affect the muscles that are the weakest structures in the system.

Background and terminology

It is logical to assume that temporomandibular disorders have existed since the development of the human joint, but the first written records date back to the fifth century BC, when Hippocrates described a method to manually reduce dislocations of the jaw. In later centuries, various pathological conditions were occasionally described; these include trismus and ankylosis due to infection, trauma or arthritis.

These patients were treated in general by doctors of the time with various medications or devices, in the same way that similar problems were treated in other joints of the body. It was not until the last part of the 19th century that surgical methods began to be described. Over the years, disorders of the masticatory system have been identified with various terms which has generated confusion.

ISSN-On line: 2414-8849

History records that man initiated the management of temporomandibular disorders in ancient Egypt through the treatment of mandibular dislocations. In the year 348 BC, Hippocrates describes for the first time a case of manual reduction of temporomandibular joint dislocation very similar to the method currently used. The first surgical replacement of the articular disc is attributed to Annandale, published by the Lancet in 1887.

At the beginning of the 20th century, surgeons Lanz, Pringle and Wakeley reported improvement in the signs and symptoms of their patients by removing the intra-articular disc. In the last half of the nineteenth century Evens introduced the first device that tried to reproduce jaw movements, but it was Walker who designed a very complex articulator and facial arc to reproduce the movements of the jaw, giving rise to the beginning of what he would call gnathology. But in 1899, Snow registered his patent for the facebow and Gysi in 1910, developed the method for registering jaw movements with the now famous Gothic arch.

At the beginning of the 20th century, Balkwell, Bonwell, Bennett, Spee, Monson and Wadsworth published the occlusal concepts based on the balanced occlusion that would level muscle activity and the interaction of the resulting forces.

Many otolaryngologists and dentists described the symptoms of head, face, ear, but in 1934, James Costen described a group of symptoms referred to the ear and the temporomandibular joint and as a consequence of this work, it was called Costen syndrome. Weinmann and Sicher in 1951, classify the problems of the temporomandibular joint from a diagnostic scheme in vitamin deficiencies, endocrine disorders and arthritis.

Five years later Shwartz proposes the term temporomandibular joint dysfunction and pain syndrome for the purpose of distinguishing disorders of the muscles of mastication from organic alterations of the joint. In 1959, Shore introduces the term temporomandibular joint dysfunction syndrome. Later the term functional alterations of the temporomandibular joint by Ramfjord and Ash appears. In 1960, Bell describes a classification composed of 6 groups that recognize intracapsular and extracapsular muscle disorders.

In 1986 the International Association for the Study of Pain publishes a classification on pain conditions and of the 32 categories of pain, category III is assigned to craniofacial pain of musculoskeletal origin with two subcategories: temporomandibular pain, dysfunction syndrome, osteoarthritis of the temporomandibular joint.

Other terms described the suggested etiologic factors, such as occlusomandibular disorder and temporomandibular joint myopathy. Others highlighted pain and called pain disorders myofascial dysfunction syndrome and pain-temporomandibular dysfunction. Then comes the proposal of the term of craniomandibular disorders.

In an attempt to unify the terminology in 1991, during the tenth annual seminar of the Craniomandibular Institute, temporomandibular disorders were defined as a group of clinical problems related to the muscles of mastication, the temporomandibular joint and associated structures. Due to the importance that has been given to this problem since 1975, the American Academy of Craniomandibular and Facial Pain Disorders (AAOP) was established.

However, it was Welden E. Bell, who suggested the term temporomandibular disorders and together with the AAOP and the International Headache Society (ISH) published the classification of temporomandibular disorders that not only includes the terms related to the joints, but also classifies the functional disorders of the masticatory system 4.5.

Despite these attempts there are discrepancies and opinions against this classification. Then a group of scholars and researchers led by Samuel Dworkin and Linda LeResche from the Department of Oral Medicine at the University of Washington in Seattle, developed a classification system for temporomandibular disorders in which they included the psychosocial aspects of temporomandibular pain, naming this classification as: Diagnostic criteria for investigation of temporomandibular disorders.

CDI/TTM

Regardless of the classification used, the diagnostic complexity of the criteria referred to above is undeniable.

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Some indices have been described to measure the presence and severity of temporomandibular joint disorders. In 1969, Krogh-Paulsen, describes a clinical examination to establish the categories that precede the diagnosis of dysfunction and therefore becomes important from the preventive point of view. The examination comprises nine criteria to evaluate three components of the masticatory system: muscles, articulation and occlusal contact.

In 1970, Marti Helkimo establishes a diagnostic test to classify patients' conditions through the Index of Clinical, Anamnestic and Occlusal Dysfunction. The absence of the study of psychosocial factors, which have commonly been associated with temporomandibular disorders, seems to be a drawback of this index.

In 1985 Friction and Schiffman proposed a Craniomandibular index, which consists of two indices, that of dysfunction and that of palpation. Although many diagnostic systems have been described, currently there are two most used by researchers: the Clinical Guidance Examination proposed by Jeffrey Okesson (1996) and the CDI / TTM index proposed by Dworkin & LeResche (1992) that includes two axes of study. The axis I that includes the information of the anamnestic clinical examination and the axis II that contains the variables of the psychosocial study.

This method to diagnose temporomandibular disorders has been translated into 17 languages and is used by more than 45 researchers integrated in an international consortium with representatives in all continents and that provides through the network the tools to perform research with this diagnostic method. Currently, doctors are having much more success in the management of patients with various temporomandibular disorders. From the diagnostic point of view, since methods such as computed tomoGraphicy and magnetic resonance have been used, this has led to a clear understanding that temporomandibular disorders can arise both in the temporomandibular joint and the muscles of mastication. This provides a better knowledge of the etiology of joint pathology and consequently the application of a more conservative treatment. The medical and psychosocial management for myofacial pain, as well as the occlusal adjustment for the treatment of these disorders; On the other hand, arthroscopy and arthrocentesis have eliminated the use of surgical procedures for the treatment of disc problems65.

Definition

TMJ temporomandibular disorders are a heterogeneous group of complex disorders, of varied and multifactorial etiologies. These disorders can affect the masticatory muscles, the bone components of the temporomandibular joint (TMJ), and the soft tissue components of the temporomandibular joint, including the articular disc and its ligament attachments. Temporomandibular disorders are the most common cause of non-dentary pain in the orofacial region, patients with these disorders often present with pain in the masticatory muscles and the temporomandibular joint or preauricular area. Other symptoms may include sounds of temporomandibular srticulosis, limited or asymmetric jaw movement, headache, and earache.

The American Dental Association defines as temporomandibular disorders a group of alterations that affect the chewing muscles and their attached structures. The temporomandibular disorders represent alterations that significantly affect the individuals who suffer from them, as well as pain, which is the main reason for consultation, they involve physical disability, functional impotence and another series of physical symptoms of a general nature that are usually accompanied by emotional stress.

There is controversy about the definition of temporomandibular disorders (TMD), however, it is considered as the set of symptoms and signs present in the masticatory system. They are a group of ailments with similar signs and symptoms such as pain, joint sounds and limited jaw movement, however, they are also considered a psychophysiological disorder, although psychological or psychosocial variables are not incorporated into the schemes used to diagnose them.

This expression allows the inclusion of anxiety and depression or emotional state altered by the presence of chronic pain or chronic pain syndrome or chronic dysfunctional pain. Temporomandibular disorders can also be recognized by the presence of chronic pain conditions of the head or back that impact on the health of the subject, causing interference and limitation of the individual's daily activities caused by pain.

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With these considerations, it is important to differentiate between severe chronic, persistent and disabling pain, since pain in the structures of the temporomandibular region is the main symptom of temporomandibular disorders and that this condition interferes with the usual activities of the individual. You can consider the impact on your economic situation by losing productivity, rather than joint noises or even jaw locking. This condition is also characterized by limitation or deviation in mandibular movement, as well as crepitus or clicking during function, unrelated to alterations in growth and development, systemic diseases or trauma.

Etiology

The etiology and pathophysiology of temporomandibular disorders is poorly understood. It is generally accepted that the etiology of temporomandibular disorders is multifactorial, with the participation of a large number of direct and indirect causal factors. Among these, occlusion is frequently cited as one of the main etiologic factors that cause temporomandibular disorders.

Numerous logical and therapeutic theories are based on this supposed association and have justified the use of several therapeutic methods such as occlusal therapy with appliances, anterior repositioning devices, occlusal adjustment, restoration procedures, orthodontics and orthognathic treatment. Conversely, many types of dental interventions, including routine orthodontic treatment, have been reported as causes of temporomandibular disorders. There are factors of initiation, predisposing factors and perpetuation factors and consequently there is no single cause. Okeson identifies five factors associated with TMD: occlusal factors, trauma, emotional stress, deep pain input and parafunctional activities, but these have been the subject of much debate and enthusiastic treatment.

The predisposing factors increase the risk of suffering from temporomandibular disorders, the triggers initiate the disorder and the perpetuating ones prevent the healing and favor the progress of a temporomandibular disorder.
In the literature, five factors closely related to temporomandibular disorders are mentioned: malocclusion, facial trauma, stress, pain and parafunctional habits.

In The Technology Advancement Conference by the National Institutes of Health (NIH) on TMD (NIH, 1997) defined these disorders according to two general aspects, pain and psychosocial dysfunction. Now there seems to be more evidence that these two aspects are important, or consequently characteristics that make patients seek treatment. Because the etiology of temporomandibular disorders presents a paradigm with a 7.8 multifactorial origin, studies conducted by researchers on temporomandibular disorders have been based on clinical examination, questionnaires or 19 interviews.

De Boever (1979) reported five different theories on the etiology of temporomandibular disorders: theory of mechanical displacement, neuromuscular theory, psychophysiological theory, muscular theory and psychological theory.

Temporomandibular disorders are not considered as only one entity, they comprise several conditions of diverse etiology and pathology and with great controversy due to limited knowledge about the etiology and natural history of the disease followed by temporomandibular disorders. (Dworkin & LeResche 1992, McNeill 1993).

Okesson describes general factors such as weakened health, general muscle diseases, joints, psychological, psychosocial factors, local factors, occlusal interferences, parafunctional activities such as bruxism or traumas can affect the stomatognathic system. Many authors have found variables associated with the tempromandibular disorders. For example, the muscular force that plays a very important role in the physiology of the orofacial complex and its changes that are generated are reflected in the mandibular movement. Also, the loss of posterior teeth has been associated with temporomandibular disorders.

The malocclusions have been related to temporomandibular disorders, mainly Class II, type I of Angle. Occlusal interferences as a cause of temporomandibular disorders have been the subject of discussion among researchers, while some reject them, others point to them as causal factors or argue that there is no evidence for rejection either.

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Other studies point to a relationship between vertical overlap (TV) and horizontal overlap (TH) with TTM. Kahan et al, (1998) found that 5 mm or more of TV and HT in the study subjects was significantly more prevalent in the 12 patients with TMD. Emotional factors such as stress and anxiety have also been linked to TTM. In the case of the association of absence of posterior pieces and its effect on the temporomandibular joint. Other factors that have been related to TMD are head and neck trauma, orthodontic treatment and the:

Socio-demoGraphicic characteristic

Von Korff et al in their prospective study of depression as a risk factor, in 1016 subjects aged 18 to 44 years concludes that the presence of pain is a subsequent risk factor to develop a new pain condition. In this sample, he found that 6.5% presented chronic pain of the temporomandibular region.

In a study Bernhardt et al conclude that among the most common headaches are those of stress and migraine type and the first with a prevalence of 30% to 70% and according to its frequency relates to muscle tension and at the same time as a risk factor to trigger temporomandibular disorders.

Epidemiological data

Temporomandibular disorders are very common problems affecting approximately 1 of the 20 to 40% of the general population. The studies of Dworkin, LeResche, McNeill, Nilner, Carlsson, Magnusson, Wänman, Heikinheimo, Könönen and others have reported a prevalence of TMD greater than 50% of the general population with signs or symptoms of the temporomandibular joint, of the which only from 3% to 7% seek professional help for your problem. A considerable number of cross-sectional studies of different populations have been published since the seventies, dominating the Scandinavian countries.

The symptoms have been presented with a prevalence range of 12% to 59% and a high number of signs (28% to 93%). According to the literature, the variation in prevalence is due to the study population and the type of index to diagnose the condition.

The McNeill studies describe some risk factors such as severe open bite, horizontal overbite greater than 7mm, discrepancy between the retrusive contact position and the intercuspal position greater than 2mm, tooth loss of five or more teeth and the Unilateral crossbite in children can be associated with 16 temporomandibular disorders. But in this regard, the study by Farella et al concludes that the posterior crossbite does not seem to be associated with noises 17 of the temporomandibular joint in adolescents.
Goldstein mentions that the causes of the temporomandibular disorders vary from a trauma to an immune disease or to neoplastic growths or unknown neurobiological mechanisms.

Also mentioned are prolonged dental treatments or intubation for general anesthesia as a cause of temporomandibular disorders.

This author also mentions that the gold standard for diagnosing temporomandibular disorders are the patient's medical history, clinical evaluation and, in most cases, psychological evaluation. According to Goldstein, temporomandibular disorders occur 18 more in the female sex.

Although dental caries and periodontal disease are the most common conditions of the oral cavity, temporomandibular disorders have become an oral public health problem. The studies on temporomandibular disorders by Helkimo in 1974, showed that the presence of signs and symptoms were the same in men than in women, more recent studies have shown higher prevalence in females. (Locker & Slade 1988, Tervonen & Knuuttila 1988, Agerberg & Inkapoööl 1990, DeKanter 1990, Dworkin et al 1990, Salonen et al 1990, Magnusson et al 1990 and 2000). The majority of patients with temporomandibular disorders are aged between 18 and 45 years (Carlsson 1999) 26.

The American Academy of Orofacial Pain estimates that 40 to 75% of the population have at least one sign and that 33% have at least one symptom of temporomandibular disorders. In contrast, other authors have shown an increase in prevalence as age advances (Aberberg & Bergenholtz 1989). Other studies have shown that the symptoms of temporomandibular disorders decrease with age and the signs increase (Salonen & Hellden, 1990).

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Zazueta et al found a prevalence of 40% in a rural population of the same region. Casanova-Rosado et al reported a prevalence of 46.9% in a study conducted among university students in the state of Campeche, Mexico, both researchers used the Examination of the Identification Criteria for Temporomandibular Joint Disorders (CDI / TTM).

Goulet et al conducted a study to determine the prevalence of pain in the mandibular region in a population of 1675 subjects aged 18 years and over through a telephone survey in the province of Quebec and found that 30% of the population suffers from pain and 7% report frequent episodes. McMillan et al in another study with a telephone survey reported a prevalence of 41.6% of symptoms of orofacial pain in a population of 1222 subjects aged 18 and over in Hong Kong. It reports that the prevalence is higher in the female sex and that apparently in the young subjects the risk is increased in comparison with older adults.

Von Korff et al concluded that the prevalence of temporomandibular joint pain tends to decrease with age and that pain in women is more frequent than in men, and the prevalence of increased depression increased by 5% in people no pain at 16.5%, in people with a pain condition between the subjects. Factors that have been associated with temporomandibular treatments are sex, parafunctional habits such as bruxism, premature contact points, 18 interferences on the work side or balance, as well as the preference a subject develops for performing unilateral mastication or treatment of orthodontics.

In an Isberg study on the effect of gender and age on the prevalence of disc displacement, she reports that the female sex at adolescence is higher in a 3: 1 ratio and that women who have symptoms of displacement disc in adolescence, also presented the symptoms a decade later. In a population, women have a ratio of 2: 1 with respect to the opposite sex.

Velly et al report in their research conducted in patients aged 18 to 60 years that there is a positive association between orthodontic treatment and disc displacement and that it increases with the presence of anxiety and concludes that even grinding and clenching are factors related to temporomandibular disorders.

McNamara reports according to his research on the relationship between orthodontic treatment and temporomandibular disorders that the signs and symptoms can occur in healthy patients, they increase during adolescence until menopause, therefore, it is not related to orthodontic treatment. In general, it concludes orthodontic treatments performed during adolescence do not increase or decrease the risk of suffering from temporomandibular disorders.

Standardization

In the scientific studies it is very important the standardization of the examiners to improve the quality of dental research, called dental public health. The World Health Organization has recommended that the reliability of clinical measurements should be a fundamental part of the oral health research work and in the case of the temporomandibular joint this process is very thorough due to the number and diversity of characteristics to be determined. When carrying out the biblioGraphicical research I found that Dworkin and collaborators have suggested guidelines for carrying out reliable studies, the most important factors that are mentioned to improve the reliability are the definition of the variables and the specifications to perform the exam.

Another factor is the training and periodic recalibration of examiners. In the field of study of the temporomandibular joint, Duinkerke et. to the. reported in their work on disorders of this articulation that training and recalibration improved the reliability of the study and concluded that training is as important as clinical experience 49. As an example of the relevance of the above, Nilsson reports in his study conducted in a population of 120 adolescents with pain of the temporomandibular region, reliability and validity in the questions of the survey that the research subject answers for himself and concludes that the results increase their accuracy, if a small interval of time between the questions and the clinical examination is allowed. This author uses the Identification Criteria for Temporomandibular Joint Disorders (CDI / TTM).

The International Consortium of Identification Criteria for Temporomandibular Joint Disorders (CDI / TTM) presents its web portal with the mission of publicizing the protocol and the research method.

ISSN-On line: 2414-8849

In addition, it provides the protocol with the exam formats, the process for the standardization of the clinical examination, the interview and the reliability studies.

4 Methodology

El estudio se realizó con la debida autorización de los directivos de la Universidad Autónoma de Campeche y el centro de readaptación social de San Francisco Koben. La muestra se obtuvo por medio de la fórmula para tamaño de muestras finitas porque se conocía el tamaño de ambas poblaciones y en total fueron 441 sujetos.

5 Results

Of the study population of the internal subjects of Cereso (Group 1), the average age was 37 years, SD = 9.5, range from 20 to 68. 89% were men and 11% women.

Of the patient population of the Autonomous University of Campeche (Group 2) studied, the average age was 18 years, SD = 4.3, range from 14 to 42. 42.8% were male and 57.2% female. The prevalence of Temporomandibular Joint Dysfunction in group 1 is 69.6% (Graphic 1). The prevalence of Temporomandibular Joint Dysfunction in group 2 is 52.4% (Graphic 2). A statistically significant difference was observed between the temporomandibular dysfunction presented in both groups, chi2 = 6.24, p = .01.

It is observed that 85.8% of men in group 1 have temporomandibular dysfunction and 14.27% of women present it, with a statistically significant association. RM = 4.6, p = .04 (Graphic 3). The dysfunction of the temporomandibular joint and sex in group 2 reported that 64% of women and 36% of men present it. There was a statistically significant association. RM = 1.8 (Graphic 4).

The components that determine Temporomandibular dysfunction in group 1 presented the following values: myofacial pain 7.3%, myofascial pain with limited opening 29.3%, disc displacement with reduction 4.2%, disc displacement without reduction 5.8%, arthritis and osteoarthritis 11% , osteoarthrosis 1%, combination of myofacial pain and disc displacement with reduction 4.2%, combination of myofacial pain and osteoarthritis 6.8%.

The components that determine Temporomandibular dysfunction in group 2 presented the following values: myofacial pain 10.8%, disc displacement with reduction 17.2%, disc displacement without reduction 5.2%, arthritis and osteoarthritis 7.2%, osteoarthrosis 9.2%, combination of pain myofacial and disc displacement with reduction .8%, combination of myofacial pain and disc displacement without reduction 2%.

The molar ratio of group 1 was explored, with class I molar in 57.6%, class II in 2.1% and class III .5%. The molar ratio of group 2 was explored, with class I molar in 88%, class II in 11.3% and class III 8.5%. In group 1 in dental wear were found 5.2% of subjects without wear, 69.1% with wear in enamel, 23.6% wear in dentin, 1.6% wear in the middle of the crown and 1 subject (.5%) more than 2 / 3 parts of worn crown.

In group 2 in dental wear, 52.8% of subjects were found to be without wear, 35.6% with enamel wear, 16.4% wear in dentin, 1.2% wear in the middle of the crown. Regarding the area of pain in group 1, it was found that 70.2% did not present pain, 11% presented joint pain, 14.1% had muscle pain and 4.7% presented both joint and muscle pain. Regarding the area of pain in group 2, it was found that 81.6% did not present pain, 5.6% presented joint pain, 8.8% muscle pain and 4% presented both joint and muscle pain.

Deviation of the midline was studied, obtaining the following results: in group 1, 77.8% deviation to the left and 22.2% to the right; in group 2, 33.9% presented deviation to the left, 25% deviation to the right and 41.1% did not show deviation. In group 1, the mean number of missing teeth was 3.98, SD = 3.07, Range from 0 to 15. A positive correlation was observed between absent teeth and age r = .39, p = .000.

In group 2, the mean number of missing teeth was .71, DS = 1.3, Range from 0 to 7. A positive correlation was observed between absent teeth and age r = .38, p = .000.

In group 1, the average of restorations in the mouth was 4.53, DS = 3.02, Range from 0 to 28. In group 2, the average of restorations in the mouth was 1.9, DS = 2.6, Range from 0 to 16.

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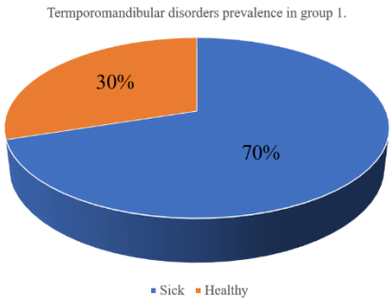
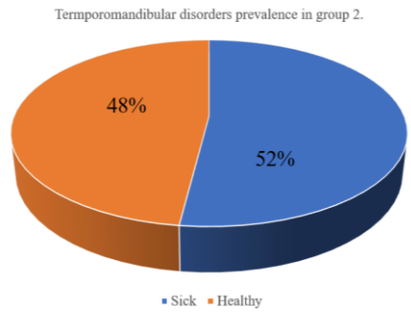
In group 1, the unassisted opening mean without pain was 36.62, DS = 5.8, Range 17 to 48. In group 2, the unassisted opening mean without pain was 41, DS = 7.3, Range from 21 to 46. In group 1, the mean maximum unobserved openness was 43.7, DS = 4.9, Range from 30 to 57 In group 2, the mean maximum unobserved openness was 47.9, DS = 7.4, Range 25 to 58. In group 1, the mean maximum assisted opening was 49.2, DS = 4.8, Range from 35 to 63. In group 2, the mean maximum assisted opening was 50.4, DS = 6.7, Range 32 to 65.



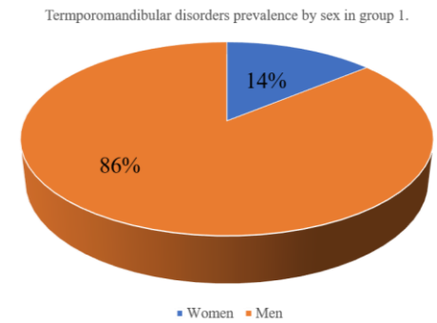
Direct source

Graphic1 Prevalence of temporomandibular disorder (TMD) (healthy and sick) study population: group 1 = Interns of Cereso



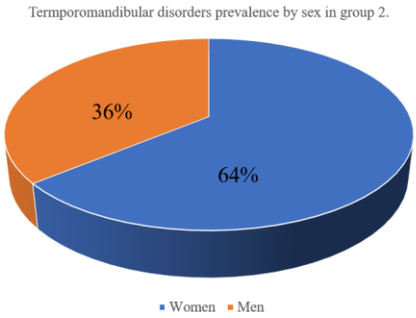
Direct source

Grafica 2 Prevalence of temporomandibular disorder (TMD) study population: group 2 = university patients



Direct source

Gráfia3 Prevalence of temporomandibular disorder (TMD) related to sex group 1 = study population inmates of Cereso



Direct source

Graphic 4 Prevalence of temporomandibular disorder related to sex (TTM) group 2 = university patients

6 Conclusion

This study shows that the internal population of the Social Readaptation Center was more affected than the university population. In the population made up of students, teachers and university administrators, women were more affected and men were more affected in the inmates.

I emphasize that in the group of university students the condition that predominated was disc displacement with reduction and in the population of inmates it was myofacial pain with limited openness. Dental loss is a common condition in Mexicans and this study confirms it when presenting a relationship between it and dysfunction in both populations studied.

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