



Temporomandibular joint disorder prevalence in resident physicians at the Specialties Hospital «La Raza» National Medical Center

Prevalencia de disfunción de la articulación temporomandibular en médicos residentes del Hospital de Especialidades Centro Médico Nacional «La Raza»

Hilda González Olivares,* Francisco López Saucedo,§ Antonieta Pérez Nova^{||}

ABSTRACT

Aim: To determine prevalence of temporomandibular joint disorder in resident physicians at the Specialty Hospital. **Material and methods:** Cross sectioned prospective, observational study. Out of a total of 324, 50 residents were assessed, including non surgical and surgical specialties of different residency years. Residents under orthodontic treatment or having been subjected to previous orthodontic treatment were excluded. Helkimo index was applied for temporomandibular joint diagnostic purposes. A physical exploration of the temporomandibular joint and masticatory muscles was later conducted. **Results:** For result evaluation, descriptive statistics and chi-square (χ^2) test were used. Statistical package SPSS 12 was used. Prevalence of temporomandibular disorder in residents was 66% of studied population. Significant result was obtained with respect to gender; it being higher in females with $p \leq .013$. Greater incidence was observed in the first residency years, as well as in non surgical specialties when compared to surgical ones. **Conclusions:** Prevalence of residents' temporomandibular disorder was similar to that reported worldwide in general population. The present study equally found greater prevalence in females. It would be significant to conduct another study to measure stress in resident physicians and relationship of stress with temporomandibular disorders.

Key words: Temporomandibular articulation disorder, residents.

Palabras clave: Disfunción de articulación temporomandibular, residentes.

RESUMEN

Objetivos: Determinar la prevalencia de disfunción de la articulación temporomandibular en médicos residentes del Hospital de Especialidades. **Material y métodos:** Estudio observacional, prospectivo, transversal. Se evaluaron a 50 residentes de un total de 324 incluyendo especialidades no quirúrgicas y quirúrgicas, de los diferentes años de residencia. Fueron excluidos los residentes que se encontraran en tratamiento de ortodoncia o hubieran estado sometidos previamente. Se aplicó el índice de Helkimo con fines diagnósticos para disfunción temporomandibular, posteriormente se realizó una exploración física de la articulación temporomandibular y de los músculos de la masticación. **Resultados:** Para la evaluación de resultados se utilizó estadística descriptiva y chi-cuadrada (χ^2). Utilizando el paquete estadístico SPSS 12. La prevalencia de disfunción temporomandibular en residentes fue del 66% de la población estudiada. Tuvimos un resultado significativo en cuanto al género siendo mayor en mujeres con una $p \leq .013$. En los primeros años de residencia se observó mayor incidencia, así como en las especialidades no quirúrgicas, que en las quirúrgicas. **Conclusiones:** La prevalencia de la disfunción temporomandibular en residentes es igual a la reportada a nivel mundial en población general. Al igual encontramos mayor prevalencia en mujeres. Sería importante realizar otro estudio para medir estrés en médicos residentes y la relación con disfunción temporomandibular.

INTRODUCTION

In the general population, a range of 40 to 50% suffer some type of temporomandibular disorder. Initial signs and symptoms usually appear during the second cycle of life. With age, prevalence and symptom implication perception increase.¹ A bibliographic review of 17 articles on temporomandibular articulation disorder prevalence, revealed variance of 16 to 68%. Criteria used to diagnose the disorder

* Maxillofacial Surgeon attached to Regional Hospital No. 1, Chihuahua, Chihuahua, Mexico.

§ Maxillofacial Surgeon, attached to the Maxillofacial Surgery Service «Dr. Antonio Fraga Mouret», «La Raza» National Medical Center, IMSS.

^{||} Specialist in Applied Statistics. Faculty of Science, UNAM.

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were Helkimo index in 11.7%, research diagnostic criteria for temporomandibular disorders 23.5%, craniomandibular index 58.8%, anamnestic questionnaires 35.2%.²

Different research projects confirm the high prevalence of these disorders, reporting that, in adult population, 70-75% suffer at least one sign of temporomandibular disorder,³ one of every four subjects is conscious of suffering it. It has been proposed that, after toothache, temporomandibular articulation disorders are the most common cause for facial pain; they can affect up to 15% of general population. Predominant age ranks between 20 and 40 years of age. Nevertheless, some authors propose that no significant differences are to be found among different age groups. The fact that this disorder is frequent does not imply it warrants treatment in all cases, since in fact, only 5 to 6% really need it. Other affected subjects will suffer mild cases which can even sometimes be transient.

A study was conducted in Mexico in the population of the Military Camp Number 1-A. In it, it was observed that temporomandibular disorder was present in 42% of all cases; in the study results, occlusal alterations were the most important risk factor for patients to suffer temporomandibular disorders.⁴

Several conditions were found in resident physicians, among those we could count anxiety, depression, hostility and instability.⁵ Professional wear syndrome or burnout syndrome indicators have been found. This syndrome is very common amongst health professionals, especially in physicians who are exposed to high levels of stress in their work.^{5,6} Burnout syndrome among different specialties is not statistically significant. It can vary from 75% in gynecologists, 63% in internal medicine physicians, 63% in neurologists, 60% in ophthalmologists, 50% in dermatologists, 40% in general surgeons, 40% in psychiatrists, 27% in family doctors.^{7,8}

Many stress-related diseases can be found in these residents: gastritis 53%, colitis 27%, anxiety 25%, neck muscle contractions 24%, migraine 21%, back pain 17%, alcoholism 17%, unsubstantiated fears 8%, neurodermatitis 3%, asthma 1.5%, frigidity 1%, impotence 1%, diabetes mellitus II 0.5%, hyperthyroidism 0.09%, hypothyroidism 0.09%.⁹

Studies have been conducted on whether the residents' decrease in sleeping hours might bring about important physiopathological consequences such as an increase in pro-inflammatory cytokines, from which a decrease in neurological functions can arise and thus affect cardiovascular health with inflammation of the vascular walls, all of which play an important role in atherosclerosis.⁹

According to the 2003 Consulate for Accreditation of Medical Education Graduates, there are references on hospital-related activities and the number of residents' active duty hours. They concluded that these active working hours should not exceed 80 hours per week; it is considered that many residents surpass this number of hours per week; this can be considered a predisposing factor for temporomandibular articulation disorders, since stress is one of its main etiological factors.^{9,10}

MATERIAL AND METHODS

The aim of the present study was to assess prevalence of temporomandibular dysfunction in resident physicians at the Specialties Hospital. It was an observational, prospective, cross-sectioned and open study. To calculate the sample's size, a worldwide prevalence of 50% temporomandibular disorder was arbitrarily taken, with 8% error margin, 95% degree of confidence, in a population of 324 residents of all specialties attached to the Hospital. Result obtained was $n = 24$. Nevertheless, 50 male and female residents of different specialties were examined, aged 23-40 years, mean 31.5 years. Participants were classified according to year of residency, specialty and whether they presented or not temporomandibular articulation dysfunction. Resident physicians who were not attached to the Institution or who were under orthodontic treatment were excluded.

To conduct the present study, Helkimo index with diagnostic aim for temporomandibular disorders was applied. The index was anonymously answered by resident physicians in training stage, authorization was previously granted with an informed consent letter, based on the format used at IMSS (Mexican Institute of Social Security) for research in human beings. The present research project was conducted at said Institution. This assessment was conducted in two phases: a questionnaire which included questions geared to temporomandibular articulation dysfunction based on symptoms that might be related to that disorder. The second phase was conducted through clinical findings; in it, physical exploration of the following was performed:

1. Temporomandibular articulation exploration: whether there were «clicks» or «crepitations».
2. Masticatory muscles palpation.
3. Mandibular movements limitation (laterality and protrusion).
4. Discrepancy in dental occlusion.

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