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ORIGINAL ARTICLE

Prevalence of Sign and Symptoms of Temporomandibular Joint Disorders in Pakistani Population at Sheikhupura, Lahore: A Gender comparison

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ABSTRACT

Background: Temporomandibular disorders have been considered as a common orofacial pain condition. The term temporomandibular pain dysfunction (TMPD) is used synonymously with myofacial pain dysfunction disorder/syndrome, temporomandibular disorder, craniomandibular disorder and many other terms.
Objective: To evaluate the prevalence of signs and symptoms of temporo-mandibular joint disorder (TMD).
Study Design: Descriptive cross-sectional study
Place and Duration of Study: Department of Oral and Maxillofacial Surgery, Faryal Dental College, Sheikhupura , Lahore, Pakistan from 1st February 2019 to 31st May 2021.
Methodology: One hundred adolescents aged 15 to 60 years were enrolled. A detailed history about the chief complaint was taken and clinical examination was done. Temporomandibular joint examination performed included Auscultation for temporomandibular joint sounds like clicking and crepitus and palpation of both TMJs and associated muscles for evaluation of pain.
Results: The most common signs of temporomandibular joint disorders were temporomandibular joint pain 78%, temporomandibular joint clicking 53% and trismus 29%. The most prevalent predisposing factors of temporomandibular joint disorders were parafunctional habits 40%, unknown factors 23% and history of road traffic accident/history of difficult extractions 9%. Male to female ratio showed female predominance (P = 0.001).
Conclusion: Signs and symptoms of temporomandibular joint disorders were prevalent in Pakistani population with a clear female predominance.
Key words: Temporomandibular disorders, Temporomandibular joint, Orofacial pain, Bruxism, Headache, Pain

INTRODUCTION

Temporomandibular disorders have been considered as a common orofacial pain condition.[1,2] The term temporomandibular pain dysfunction (TMPD) is used synonymously with myofacial pain dysfunction disorder/syndrome, temporomandibular disorder[3], craniomandibular disorder and many other terms. It is referred to a group of disorders characterized by: Pain in the jaw muscles, the preauricular area and or the temporomandibular joint (TMJ); TMJ sounds and deviation or limitation in mandibular range of motion during mandibular function.[1] TMPD generally present with diffuse pain in head and neck region particularly the muscles of mastication. Pain is more intense in the morning time and there is often a history of stressful life events and difficulty in sleeping and bruxism. Females are more commonly affected than males and most of the patients are in the age range of 15-40 years.[4,5]

The aetiology and pathogenesis of TMPD is controversial and it is difficult to find out a single etiological factor for these disorders. Different etiological factors have been reported to be associated with TMPD like, genetic, developmental, physiological, pathological, psychological and traumatic.[6] Oral habits or parafunctions have been reported to be common worldwide among many children and adolescents. These parafunctional habits include bruxism, daytime clenching, continuous gum chewing, nail biting and chewing on pen or pencil. These habits have potential detrimental effects on the masticatory system and are considered to be related with stressful lifestyle or lack of emotional support.[7] Different studies have been carried out to know about the proportion and distribution of these problems among different communities. These studies suggest that 5-75% of the population have signs and symptoms of TMPD.[8]

Unfortunately very few studies are available regarding this issue in our region. The purpose of this study is to assess the prevalence of clinical signs and symptoms of TMPD in our society in order to prepare a report about the patterns of this disorder in our community and hence provide different therapeutic and preventive measures to help these patients.

MATERIALS AND METHODS

This descriptive cross-sectional study was conduct at Department of Oral and Maxillofacial Surgery, Faryal Dental College, Sheikhupura, Lahore, Pakistan from 1st February 2019 to 31st May 2021 and comprised 100 patients. Clinical calibration exercise was done among all examiners those who were included in the study and Kappa score was 0.25.[9] A detailed history about the chief complaint was taken and clinical examination was done and the questionnaire was completed. The special designed questionnaire included a patient history of social and family history including the marital status. TMJ examination performed included Auscultation for TMJ sounds like clicking and crepitus and palpation of both TMJs and associated muscles for evaluation of pain.

Evaluation of other associated factors like orthodontic treatment, occlusion and para functional habits and trauma was also done. The data were analyzed using SPSS 17. Statistical significance was based on P<0.05.

RESULTS

The mean was 31.52±8.67 years. Females were more than males. In both male and female, TMJ Pain in the temporal muscle was the most common symptom, with a frequency of 78%, followed by TMJ Clicking (53%). Trismus was significantly different (p<0.03) in the females than males. Jaw locking was observed in 10% of the patients, but it was not significantly different between the genders (p=0.46) (Table 1). Among TMJ other factors parafunctional habits were found to be more 40% (p=0.93) (Table 2).

Table 1: TMD symptoms and differences between male and females

Symptom	Male	Female	P value
Headache	7	20	0.59
TMJ Pain	21	57	0.20
TMJ Clicking	17	36	0.63
Trismus	13	16	0.03*
Jaw Locking	2	8	0.46

*Significant at p<0.05

Table 2: TMD predisposing factors and differences between male and females

Factors	Male	Female	P value
Parafunctional	10	30	0.932
H/O Fall	2	5	0.322
H/O RTA	4	5	0.617
H/O sports injury	2	3	0.072
H/O orthodontic treatment	0	7	0.322
H/O difficult extraction	4	5	0.373
Unknown	8	15	0.568

DISCUSSION

Psychosomatic and behavioral developments have been associated with TMJ pain in a number of studies.[10-12] All subjects in our study, 53% showed clicking, which is more than that of (Italian) Japanese populations,[13] Brazilian adolescents[14] or of Iranian dental students in another study.[15] It has been found that joint sounds are detected as one of the most prevalent symptoms in children.[16]

The results of this study showed that the proportion of females with TMDs (70%) was significantly higher than that of the male subgroup (30%) like other studies.[17,18] However in some studies no differences between genders were found.[14,19]

Motegi et al[20] concluded in a study that the sex factor does not have any significant effect on TMDs. If the gender difference exists, it is because of females more often conscious than men.

In this study 7% orthodontic subjects (all female) were having TMDs. Like this there are some other studies showed different types of malocclusions have a significant effect on TMDs.[20,21]

In our study 40% parafunctional habits, clenching, and bruxism had a significant association with TMDs, more in female than male. This association between parafunctional habits and TMDs was also established earlier studies,[22] although some studies found no such relationship.[18,21-24]

According to the results of this survey, TMDs are prevalent among Pakistani population, with a clear female predominance. TMDs decrease the quality of life,[25] a great challenge for the dentist to deal these cases, in this regard serious effort must be taken. In TMDs prevention and early diagnosis can overcome this problem in the community. Preventive schools dental health education/programs (DHE) and awareness for parents may play an important role in reducing the prevalence of TMDs in the Pakistani population.

CONCLUSION

Females had TMD signs and symptoms more frequently than males in our study population and most common problems in both male and female were pain, clicking, trismus, headache and jaw locking the most frequent symptoms.

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