

FREQUENCY, CAUSES AND EFFECTS OF TEMPOROMANDIBULAR PAIN DYSFUNCTION SYNDROME AMONG PATIENTS SEEN AT NISHTAR INSTITUTE OF DENTISTRY, MULTAN

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ABSTRACT

Temporomandibular joint pain dysfunction syndrome is the second most frequent cause of facial pain. The objective of this study was to find out most common etiological factor of TMD, its clinical symptoms, and distribution among gender. Etiology was multifactorial. All patients (100%) with TMD were having malocclusion and stress (100%). Third most common factor was increased pain threshold (37%). Out of 160 patients 82 (51%) were females and 78(48%) were males. Most patients were between 20-30 years of age group 51/160 (31.8%). Most common presenting symptom was pain followed by clicking sounds in joint and then limited mouth opening. All these symptoms were more common in females.

Key Words: Pain dysfunction syndorm, frequency.

INTRODUCTION

Temporomandibular joint dysfunction (TMD) occurs in joints which connect the mandible to the skull, with masticatory muscles that help in opening and closing of jaws. About 20-30% of the adult population is affected to some degree.¹ Three classically described, cardinal signs and symptoms of TMD are pain and tenderness on palpation in the muscles of mastication or of the joint itself (preauricular pain.² Pain is the defining feature of TMD and is usually aggravated by manipulation or function, limited range of mandibular movement. Noise from the joint during mandibular movement,³ which may be intermittent. Joint noises may be described as clicking, popping, or crepitus (grating).⁴

Etiology is multifactorial and includes malocclusion, jaw clenching, bruxism, personality disorders, increased pain sensitivity, and stress and anxiety. In most patients more than one factor is present. Of the causes of arthrogenous TMD, disk displacement is the most common. Other diseases such as degenerative joint disease, polyarthritides such as rheumatoid arthritis, ankylosis, dislocation, infection, neoplasia, and congenital anomalies may contribute to pain.⁵

TMD can be difficult to manage, and since the disorder transcends the boundaries between several health-care disciplines — in particular, dentistry and neurology, the treatment may often involve multiple approaches and be multidisciplinary. The natural history of TMD is benign and self-limiting, with symptoms slowly improving and resolving over time. The prognosis is therefore good.⁶

The current study was conducted to find out the risk factors most commonly associated with TMD to know the gender predilection, age group and effects of TMD in patients who visited the pain clinic in Nishtar Institute of Dentistry, Multan.

METHODOLOGY

One hundred and sixty consecutive patients of TMD from Jan 2012 to June 2013 presented at Nishtar Institute of Dentistry Multan diagnosed clinically and radiographically were included in this descriptive study. A detailed history was obtained regarding types, severity of symptoms, duration and site of pain was noted to reach the diagnosis. Demographic information like name, age and gender were recorded. A detailed systemic examination of all patients was carried out so that critically ill patients were not included in this study. Both extraoral and intraoral examination of the patient was performed and relative findings were recorded. Orthopantomogram (OPG) was taken for each patient to aid in reaching diagnosis. For the collection of data, a questionnaire was made. Before the administration of questionnaire subjects were told about the purpose of the study. They were assured that all information obtained from them will be kept confidential and would be used for research purpose only. They were requested

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to answer all the questions. An informed consent was taken about the questionnaire.

RESULTS

Out of 160 patients 82 (51%) were females and 78(48%) were males. Most patients were between 20-30 years of age group 51/160 (31.8%).

Etiology was multifactorial. All patients (100%) with TMD were having malocclusion and stress (100%). Third most common factor was increased pain threshold (37%).

Most common presenting symptom was pain followed by clicking sounds in joint and then limited mouth opening. All these symptoms were more common in females. Details can be seen in Tables 1-4.

DISCUSSION

Temporomandibular pain dysfunction syndrome is very common in our society among adults and females. Most of patients in this study were between age 20-30 and females. This is the finding consistent with the studies of Licini⁷ which showed the prevalence of temporomandibular disorders (TMD) higher among women than men, indicating a multifactorial role for gender-related differences in the etiology of TMD, physiological hormonal differences, inflammatory response to stress, and sociocultural differences in response to pain. Gender-related differences may be considered risk factors for TMD; psychological characteristics, including somatization, depression, and anxiety related to gender, appear to have a significant impact on the prevalence of TMD.

All patients in the current study were having malocclusion and stress (100%). Stress was also most common factor in one study done by Rai.⁸ In his study 15 patients out of 24 exhibited TMD having high salivary cortisol and melamin levels. Pizolato⁹ also concluded that stress and open lips were associated with TMD in children.

Deep bite was most common causative factor present in the current study followed by crowding, carious and missing teeth and then cross bite. Sipila¹⁰ showed edentulousness, wearing of complete dentures and poor

condition of dentures associated with pain-related TMD findings among women.

Clenching was the causative factor in the current study in 12.5% of patients. Dawson¹¹ also showed in his study that tooth clenching was associated with TMD. But Yaduv¹² worked on subjects comprising of 260 females and 240 males in the age group of 18-55 years and showed a limited association between the severity of attrition and TMJ dysfunction.

Köhler¹³ study included 100 individuals which show the prevalence of muscle pain and temporomandibular joint pain. Gender differences were noted in these changes overtime. Female gender, advancing age, awareness of bruxism, self-perceived health impairment and the wearing of complete dentures were associated with TMD signs. Feraz¹⁴ evaluated temporomandibular joints tomographically, and found tomographic alterations in joints out of which 25 (83.3%) patients were clinically diagnosed with TMD. And only 5 (16.7%) were clinically diagnosed with osteoarthritis/arthrosis. But in the current study no patient was having degenerative joint disease.

Most common presenting symptom in the current study was pain followed by clicking sounds in joint and then limited mouth opening in this study. Pimenta¹⁵ study also showed facial pain was reported by 85% of the TMD group, and 77.5% were diagnosed with myofascial TMD. Muscle pain during jaw movements, daytime bruxism/clenching, and limited mouth opening were significantly higher.

In this study all sign and symptoms were present more in females. Schmid¹⁶ also showed significantly higher pain intensity for females than for males. Clinical assessment showed a significantly lower degree of mouth opening for females than for males. While no gender specific differences were noted for clicking phenomena of the temporomandibular joint (TMJ) and for the bite class of the patients, bite anomalies were significantly more frequent in male patients in his study.

Bagis¹⁷ studied 243 consecutive patients and showed, on palpation of masticatory muscles and the TMJ revealed significantly higher tenderness on palpation in female as compared to male. With a frequency of 92%, pain in the temporal muscle was the most common

TABLE 1: DISTRIBUTION OF TMD IN TERMS OF AGE AND GENDER

Age range (in years)	Males (n)	%	Females (n)	%	Total No. of patients (n)	% Total
10-20	12	7	21	13	33	20
20-30	33	20	18	11	51	31.8
30-40	12	7	28	17	40	25
40-50	15	9	9	5.6	24	15
50-60	6	3.7	3	1.8	9	5.6
60-70	0	0	3	1.8	3	1.8

TABLE 2: DISTRIBUTION OF PATIENTS ON THE BASES OF CAUSATIVE FACTORS

Causative factor	No. of patients	%
Malocclusion	160	100
Clenching	20	12.5
Bruxism	10	6
Personality disorders	7	4
Increased pain threshold	60	37
Stress	160	100
Anxiety	54	33
Disc displacement	40	25

TABLE 3: DISTRIBUTION OF CLINICAL FEATURES AMONG GENDER GROUPS

Symptoms	Males(n)	%	Females (n)	%	Total No. of patients	% Total
Pain	60	37	70	43	130	81
Clicking sounds in joint	40	25	50	37.5	90	56
Limited mouth opening (less than 25mm)	20	12.5	30	18.7	50	31

symptom, followed by pain during mouth opening (89%) in both genders. TMJ pain at rest, pain in the masseter muscle, clicking, grinding, and anti-depressant use were significantly more frequent in females than males.

Mahayo¹⁸ study included 235 children, and showed high prevalence of signs and symptoms related to temporomandibular disorders, in particular in children with mixed dentition. Prevalence of signs and symptoms in his study was 33.2%, and predominately muscular (82%), 48.1% showed signs of muscular pain and 19.1% joint pain. Most of patients 63.4% showed signs of alteration in the mouth opening pattern, 39.1% presented joint sounds on opening or closing the mouth and 20.4% on mandibular movement. These findings are also consistent with the current study.

CONCLUSION

Temporomandibular pain dysfunction syndrome is more common in females between 20-30years of age group. Etiology is multifactorial. Most common factor was malocclusion and stress. Most common presenting symptom was pain followed by clicking sounds in joint and then limited mouth opening. All these symptoms were more common in females.

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