



## International Journal of Applied Dental Sciences

ISSN Print: 2394-7489  
ISSN Online: 2394-7497  
IJADS 2018; 4(4): 286-288  
© 2018 IJADS  
www.oraljournal.com  
Received: 05-08-2018  
Accepted: 10-09-2018

**Dr. Bharti Dua**  
Assistant professor, Department  
of prosthodontics, Swami  
Vivekanand Subharti  
University, Meerut, Uttar  
Pradesh, India

**Mani Baweja**  
Consultant Dentist, Delhi, India

**Pankaj Datta**  
Dean, Professor & Head,  
Department of Prosthodontics,  
Inderprastha Dental College and  
Hospital, Sahibabad, Uttar  
Pradesh, India

**Ravi Madan**  
Associate Professor, Department  
of Prosthodontics, Kothiwal  
Dental College and Research  
Centre, Moradabad, Uttar  
Pradesh, India

**Sandip Rajan**  
Senior Resident, Vardhman  
Medical College and Safdarjung  
Hospital, Delhi, India

**Rimsha Ahmed**  
Senior lecturer, mithila minority  
dental college & hospital  
darbhanga, Bihar, India

### Correspondence

**Dr. Bharti Dua**  
Assistant professor, Department  
of prosthodontics, Swami  
Vivekanand Subharti  
University, Meerut, Uttar  
Pradesh, India

## Assessment of clinical profile of patients with TMDs-A clinical study

**Dr. Bharti Dua, Mani Baweja, Pankaj Datta, Ravi Madan, Sandip Rajan  
and Rimsha Ahmed**

### Abstract

**Background:** Temporomandibular disorders (TMD) are a group of painful conditions that typically involve the temporomandibular joint(s) (TMJ) and/or masticatory muscles. The present study was conducted to assess the clinical profile of patients with TMDs.

**Materials & Methods:** The present study was conducted on 210 patients with TMDs in age ranging from 15 to 45 years. The frequency and distribution of disease among study group patients was obtained through detailed case history and clinical examination of TMJ. All the patients were evaluated for the etiological factors including clenching/grinding/nail biting, stress, occlusal disturbances, traumatic injury to TMJ, and systemic diseases.

**Results:** Out of 210 patients, males were 90 and females were 120. The most common etiological causes of TMD were par functional habit seen in 36.7% of study group patients (the difference was significant with p value < 0.05) followed by stress in 27.2% of patients. Most of the patients were treated with occlusal splint placement and pharmacotherapy. Other treatment modalities used were physiotherapy, corticosteroids and laser therapy in 19%, 16.7%, 4.76% of patients respectively.

**Conclusion:** It is suggested that studies on TMD should be conducted in groups within wide age-ranges, in addition to cross-sectional studies, including various characteristics of the patients treated, to enable better understanding of the behavior of this disorder.

**Keywords:** Corticosteroids, Occlusal splint, temporomandibular disorders

### Introduction

Temporomandibular disorders (TMD) are a group of painful conditions that typically involve the temporomandibular joint(s) (TMJ) and/or masticatory muscles. It is well recognized that a proper diagnosis is essential for the successful treatment planning of TMD, and this is one of the greatest challenges facing the professionals who treat these conditions<sup>[1]</sup>.

Epidemiological studies show that TMD has prevalence between 20% and 60% in the general population and those with TMD, 25% need treatment. However, its incidence in the population has been increasing considerably, mainly in women, with a ratio of 5:1 in relation to men, and in greater number in the middle-aged women, predominantly between 21 and 40 years old. Between 15 and 30 years, the most frequent causes are those of muscular origin, and from the age of 40, of joint origin<sup>[2]</sup>.

TMD can be well diagnosed, guided by the patient's medical history and clinical examination, including occlusal, physical and psycho-emotional factors. Clinical manifestations vary and may present as: pain in the TMJ and masticatory muscles; sense of stiffness in orofacial and cervical regions; auditory disorders (tinnitus, earache, vertigo, hearing fullness, hyperacusis or deafness); limitation of mandibular movements; headache; sounds of popping and clicking in the TMJ, static occlusion and abnormal dynamics<sup>[3]</sup>.

A particular profile of patients seeking treatment for these conditions could be composed by reflecting the heterogeneity of the conditions involved into identifiable groups based on the clinical presentation of symptomatic patients<sup>[4]</sup>. The present study was conducted to assess the clinical profile of patients with TMDs.

### Materials & methods

The present study was conducted on 210 patients in the age ranging between 15 to 45 years.

All the patients were informed regarding the study and written consent was obtained. Ethical clearance was obtained prior to the study from institutional ethical committee. General information such as name, age, gender etc. was recorded. In all patients, a detailed history was taken and clinical examination was carried out to diagnose TMD and to record the possible etiological factors such as clenching, grinding, nail biting, stress/psychological disturbances, occlusion evaluation, history of trauma to TMJ, systemic illnesses. After clinical assessment of the patients, diagnosis and treatment plan was planned for each patient. The treatments rendered were occlusal splint placement, physiotherapy, pharmacotherapy, corticosteroid injections, laser therapy. Results were tabulated and subjected to statistical analysis. p value less than 0.05 was considered statistically significant.

## Results

**Table 1:** Distribution of patients

Male	Percentage	Female	Percentage
90	42.8	120	57.2

Table I shows that out of 210 study group patients, there were 90 males and 120 females.

**Table 2:** Etiological factors in patients

Etiological factors	Number	Percentage	P value
Clenching/Grinding/Nail biting	77	36.7	0.01
Stress	57	27.2	
Occlusal disturbances	42	20.0	
History of trauma	5	2.28	
Systemic disease	1	0.47	
Unknown cause	28	13.3	
Total	210	100	

Table II, Graph I shows that most common cause for TMDs was par functional habits such as clenching, grinding and nail biting in 36.7% patients. Stress and occlusal disturbances (open bite, were also major etiological factors in the development of TMD. in 27.2% and 20% of study group patients respectively. Other etiological factors were history of traumatic injury to TMJ (2.28% of patients) and systemic diseases (0.47% of patients). There were 28% patients in which no definite possible etiological factor was found. Graph I

**Table 3:** Treatment given to patients

Treatment	Number	Percentage
Occlusal splint	70	33.3
Pharmacotherapy	55	22.9
Physiotherapy	40	19
Corticosteroids	35	16.7
Laser	10	4.76

Table III, Graph II shows that treatment rendered was occlusal splint in 70 patients, physiotherapy in 55 patients, pharmacotherapy in 40 patients, corticosteroids in 35 patients and laser in 35 patients.

## Discussion

Temporomandibular disorder represents a set of chronic painful conditions, and dysfunction in the orofacial region, affecting not only the normal functions of this joint, but also the quality of life and social interaction. For this reason, researchers have been looking for less elaborated evaluation

processes that cover the main clinical findings, easy to apply in clinical situations, and allow their use in epidemiological or population studies, as well as a unique tool in the calibration of research involving sample collections [5].

In present study, the diagnosis of internal TMJ disorders was based on clinical findings and conventional radiographs when indicated. Magnetic resonance images of the TMJ were requested for patients with persistent pain, significant limitations in mouth opening (< 30 mm) and suspected degenerative joint disease. Although bruxism is a contributor and might occasionally trigger TMD, it was considered a diagnostic group in cases when it was a chief complaint.<sup>6</sup> Out of 210 patients, males were 90 and females were 120. We found that most common etiology was para functional habits such as clenching, grinding and nail biting in 77 patients, stress in 57 patients, occlusal disturbances in 42 patients, and traumatic injury in 5 patients, systemic disease (rheumatoid arthritis) in 1 patient, and other unknown causes in 28 patients.

Reden *et al.* [7] found that 60% of the students presented pain on both sides of the face, 50% presented uncorrected right lateral deviation, the average of in cisal overbite was  $\pm 1.6$ mm, the average of midline deviation was  $\pm 1.4$ mm, 50% of the students presented click on the right side during mouth opening. Positive correlation and statistically significant was observed for the presence of pain on palpation of the masticatory muscles and adjacent structures. A strong positive correlation between the perception of difficulty to open the mouth and the mouth opening was seen. The results of this study show that undergraduate students with severe TMD have significant limitation of the range of the mandibular motion, accompanied by pain in the masticatory muscles and adjacent structures.

In present study, treatment rendered was occlusal splint in 70 patients, physiotherapy in 55 patients, pharmacotherapy in 40 patients, corticosteroids in 35 patients and laser in 10 patients. Amanda *et al.* [8] in their study a total of 560 patient records related to 448 [80%] women and 112 [20%] men were evaluated. The age ranged from 10 to 93 years. Etiologic factors were reported in 374 [66.8%] records. There was an association between age and abuse. There was no significant association between treatment and gender. The profile of TMD patients seen in the last decade [2004–2014] was characterized by the majority being female patients, mean age 34.94 years and having some par functional habits.

Macedo *et al.* [9] found that the most common diagnoses were localised masticatory muscle pain (n = 125) and disc displacement without reduction (n = 104). Comorbidity was identified in 288 patients. The automatic selection of an optimal number of clusters included 100% of cases, generating an initial 6-cluster solution and a final 4-cluster solution. The interpretation of within-group ranking of the importance of variables in the clustering solutions resulted in the following characterization of clusters: chronic facial pain (n = 36), acute muscle pain (n = 125), acute articular pain (n = 75) and chronic articular impairment (n = 121).

## Conclusion

It is suggested that studies on TMD should be conducted in groups within wide age-ranges, in addition to cross-sectional studies, including various characteristics of the patients to enable better understanding of the behavior of this disorder.

## References

1. Barbosa TS, Leme MS, Castelo PM, Gavia~o MBD.

- Evaluating oral health-related quality of life measure for children and preadolescents with temporomandibular disorder. *Health Qual Life Outcomes*. 2011; 9:32.
2. Manfredini D, Chiappe G, Bosco M. Research diagnostic criteria for temporomandibular disorders (RDC/TMD) axis I diagnoses in an Italian patient population. *J Oral Rehabil*. 2006; 3:551-558.
  3. Dworkin SF, Le Resche L, Von Korff MR. Diagnostic studies of temporomandibular disorders: Challenges from an epidemiological perspective. *Anesth Prog*. 1990; 37:147-154.
  4. Dougall AL, Jimenez CA, Haggard RA, Stowell AW, Riggs RR, Gatchel RJ. Bio-psychosocial factors associated with the subcategories of acute temporomandibular joint disorders. *J Orofac Pain*. 2012; 26:7-16.
  5. Carlsson GE. Epidemiology and treatment need for temporomandibular disorders. *J Orofac Pain*. 1999; 13:232-237.
  6. Pedroni CR, De Oliveira AS, Guaratini MI. Prevalence study of signs and symptoms of temporomandibular disorders in university students. *J Oral Rehabil*. 2003; 30:283-289.
  7. Raydelane Grailea Silva Pinto, Giselle Aires de Sousa, Mariana de Oliveira Sanchez. Clinical profile of undergraduate students with severe temporomandibular disorder: A case study. *International Journal of Development Research*. 2017; 7(11):17103-17108.
  8. Amanda Ramos Regis Maciel, Lucas Garcia Santana, Gabriel Dornellas Gomes, Patrícia Ribeiro Orlando, Thiago Victor Clemente, Evandro Silveira de Oliveira, Dhelfeson Willya Douglas de Oliveira, Geruza Costa Gonzaga Anéas, Patrícia Furtado Gonçalves & Olga Dumont Flecha. Clinical Profile of Patients with Temporomandibular Disorders Referred to a University Clinic. *MYOPAIN*, 2017, 1-6.
  9. De Macedo Nery MB, De Góis Nery C, Leles CR. Profiling the clinical presentation of diagnostic characteristics of a sample of symptomatic TMD patients. *BMC oral health*. 2012; 12(1):26.