

To Investigate the Various Types of Stress Induced Temporomandibular Disorders Among Dental Students

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ABSTRACT

Background: Among different etiological factors of TMD, stress is most commonly related to TMD patients. Dental students' undergoing stressful life conditions before the development of TMD symptoms. Hence, the present study was conducted to investigate the various types of stress induced temporomandibular disorders among dental students.

Materials and Methods: The present study was conducted to investigate the various types of stress induced temporomandibular disorders among dental students. A sample of 380 students were selected for the study. Study includes clinical evaluation of TMJ system and questionnaire. The Data were coded, entered, and analyzed using the Statistical Package for the Social Sciences (SPSS) version 20 (Armonk, NY: IBM Corp).

Results: The present study included a total of 380 dental students of either sex in which 140 students were eligible for the study. Temporomandibular disorder symptoms among dental students, headache was found to be the most prevalent TMD symptom (47.85%) followed by clicking (27.14%), pain on clicking (12.14%), jaw lock (7.8%), and difficulty in mouth opening (5%). The frequency distribution of TMD signs among dental students shows clicking was found to be the most prevalent TMD sign (40%) among dental students followed by deviation (24.28%), TMJ pain (12.85%), muscle tenderness (12.14%), and limitation (10.71%). The TMD prevalent in dental

students shows the most prevalent TMD was disc displacement 61.42% followed by myofascial pain dysfunction syndrome (MPDS) with disc displacement 30% and MPDS 8.57% in dental students.

Conclusion: The present study concluded that Temporomandibular disorder symptoms among dental students, headache was found to be the most prevalent and clicking was found to be the most prevalent TMD sign. The most prevalent TMD was disc displacement among dental students.


Keywords: Myofacial Pain Dysfunction Syndrome, Disc Displacement, TMJ Disorders, Dental Students.

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INTRODUCTION

The temporomandibular joints (TMJ) is an articulation between the glenoid fossa of the temporal bone and the condyle of the mandible.¹ Temporomandibular disorder (TMD) is a group of conditions producing abnormal, incomplete, or impaired function of the temporomandibular joint. Temporomandibular disorder (TMD) is a wide ranging term used to describe a number of related disorders, involving the temporomandibular joint (TMJ),

masticatory muscles, and occlusion, with common symptoms such as pain, restricted movement, muscle tenderness, and intermittent joint sounds.² TMD consist of clinical signs and symptoms that involve imbalance between structures of the stomatoganthic system involving masticatory muscles, TMJ and associated structures.³ TMD is often viewed as a repetitive motion disorder of the masticatory structures. It has many similarities to

musculoskeletal disorders of other parts of the body, and therapeutic approaches for other musculoskeletal disorders generally apply to this disorder as well.⁴ TMD is a prevalent disorder most commonly observed in individuals between the ages of 20 and 40 years. Approximately 33% of the population has at least one TMD symptom and 3.6%–7% of the population has TMD with sufficient severity to cause them to seek treatment.⁵⁻⁷ The exact cause of TMDs is not known but is thought to be multifactorial.⁸ Different etiological factors of TMD documented in medical literature are Psychological factors such as personality and behavior, occlusal discrepancies, improper dental treatment, joint laxity, continuous micro trauma to joint, overloading/overusing joint structures, and parafunctional habits. Stress, behavioral, social, and emotional conditions are also considered. Among different etiological factors of TMD, psychosocial factors are most commonly related to TMD patients.^{9,10} The present study was conducted to investigate the various types of stress induced temporomandibular disorders among dental students.

MATERIALS AND METHODS

The present study was conducted to investigate the various types of stress induced temporomandibular disorders among dental students. A sample of 380 students were selected for the study. Their age ranged from 17 to 25 years. Patients with craniofacial anomalies, history of orthodontic treatment, trauma, and surgery of TMJ were excluded from study. Study includes clinical evaluation of TMJ system and questionnaire. TMJ evaluation includes the examination of TMJ sounds, Muscles of mastication, mouth opening, and range of mandibular motion. The pretested questionnaire comprised of questions regarding TMD symptoms, and TMD signs. Data were coded, entered, and analyzed using the Statistical Package for the Social Sciences (SPSS) version 20 (Armonk, NY: IBM Corp).

Table 1: Distribution of Signs and symptoms of TMD in dental students

| VARIABLE | N (%) 140 |
|-----------------------------|------------|
| SYMPTOMS | |
| Headache | 67(47.85%) |
| Clicking | 38(27.14%) |
| Pain on clicking | 17(12.14%) |
| Difficulty in mouth opening | 7(5%) |
| Jaw lock | 11(7.8%) |
| SIGNS | |
| Clicking | 56(40%) |
| TMJ pain | 18(12.85%) |
| Muscle tenderness | 17(12.14%) |
| Limitation | 15(10.71%) |
| Deviation | 34(24.28%) |

Table 2: Distribution of temporomandibular disorders among dental students

| TMD | N(%) |
|-----------------------------|------------|
| MPDS | 12(8.57%) |
| Disc displacement | 86(61.42%) |
| MPDS with disc displacement | 42(30%) |
| Total | 140 |

RESULTS

The present study included a total of 380 dental students of either sex in which 140 students were eligible for the study. Temporomandibular disorder symptoms among dental students, headache was found to be the most prevalent TMD symptom (47.85%) followed by clicking (27.14%), pain on clicking (12.14%), jaw lock (7.8%), and difficulty in mouth opening (5%). The frequency distribution of TMD signs among dental students shows clicking was found to be the most prevalent TMD sign (40%) among dental students followed by deviation (24.28%), TMJ pain (12.85%), muscle tenderness (12.14%), and limitation (10.71%). The TMD prevalent in dental students shows the most prevalent TMD was disc displacement 61.42% followed by myofascial pain dysfunction syndrome (MPDS) with disc displacement 30% and MPDS 8.57% in dental students.

DISCUSSION

Temporomandibular disorders (TMDs) are a collective term that defines a subgroup of painful orofacial disorders, involving complaints of pain on the temporomandibular joint (TMJ) region and fatigue of the craniocervicofacial muscles, especially masticatory muscles, limitation of mandibular movement, and presence of articular clicking.¹¹

The etiology of TMD has multifactorial causes related to emotional stress, occlusal interference, mispositioning or loss of teeth, dysfunction of masticatory musculature and adjacent structures, extrinsic and intrinsic changes of TMJ structure, or a combination of such factors.¹²⁻¹⁴

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Gray et al.¹⁵ assessed the presence of TMD symptoms among 160 complete denture users. The results showed that 43.13% of the patients had some level of TMD. Considering the whole sample, 56.87% were classified as having no disorder, 40% had mild TMD, 1.87% moderate TMD, and 1.26% severe TMD.

Basafa and Shahabee¹⁶ and Miyake et al.¹⁷ in their study have shown that joint noises were the predominant sign and symptom. Liao et al.¹⁸ wherein it was derived that the incidence of TMD was 2.65 times higher in the depression cohort than in the nondepression cohort. Increased stress levels are believed to result in poor habits including bruxism, clenching, and even excessive gum chewing. These lead to muscular overuse, fatigue and spasm and subsequent pain.¹⁹

CONCLUSION

The present study concluded that Temporomandibular disorder symptoms among dental students, headache was found to be the

most prevalent and clicking was found to be the most prevalent TMD sign. The most prevalent TMD was disc displacement among dental students.

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