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Original Article

Self Assessment of Temporomandibular Disorder (TMD) Symptoms Prevailing Among Dental Students

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ABSTRACT:

Aim- Self assessment of temporomandibular disorders symptoms present among dental students. **Objective-** To find out the prevalence of symptoms of temporomandibular disorders present in undergraduate and postgraduate students of BBDCODS, Lucknow. **Materials and methods**- A cross-sectional questionnaire based study was conducted among the undergraduate and postgraduate students in BBDCODS, Lucknow. A total of 508 questionnaires were distributed among the students and results were collected and analyzed statistically. **Results-** Among 508 dental students**,** 30% have clicking sound in their temporomandibular joint while opening mouth or chewing which were most common symptoms recorded. Headache or earache was recorded in 24% of the students. 12% of the students have difficulty in opening the mouth, 10% have difficulty in yawning and 8% have difficulty in chewing food. **Conclusion-** The results of this study allow us to conclude that TMJ sound was the most common symptom recorded among the students followed by headache and earache.

Key words: Temporomandibular disorders, clicking, self-awareness, temporomandibular joint.

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INTRODUCTION

The temporomandibular joint (TMJ) is a bilateral joint that involves the condyle of the mandible and temporal bone of the skull. TMJ plays a role in movement of the mandible during mastication and speech (Muhammad S.Zafar et al, 2017). TMJ, is a bi-condylar joint in which the condyles, located at the two ends of the mandible, function at the same time. Condyle is the movable round upper end of the mandible and the socket in which the condyle moves is called the articular fossa. Between the condyle and the articular fossa is a disc which is made of fibrocartilage that acts as a cushion to absorb stress and allows the condyle to move easily when the mouth opens and closes (Shirish Ingawale et al, 2009). Temporomandibular disorders (TMD) involves the cranio-orofacial region and causes abnormalities of the joint and the muscle. It is mainly characterized by pain in the TMJ, muscle pain, abnormal sound in the TMJ and restricted or abnormal movement of the mandible. Thus TMD significantly affects the life of an individual (Al-Khotani A et al, 2016).

American Dental Association in 1983 (Laskin et al., 1983) defined TMD as a group of orofacial disorders characterized by pain in the preauricular area, TMJ, or muscles of mastication, limitations and deviations in the mandibular range of motion, TMJ sounds during functions of jaw. Luther in 1998 first used the term TMD for the variety of symptoms, signs and combinations related to the TMJ and its related structures (Niraimathi K et al, 2016).

Multiple etiological factors are involved to TMD, which mainly includes traumatic injury.[1] Etiological factors include occlusal malformation, orthodontic treatment, joint laxity, bruxism, trauma, exogenous estrogen and orthopedic instability. Other etiological

factors include Emotional factors (depression and anxiety) (Andrea Maria Chisnoiu et al, 2015).

Therefore, a difference between the normal growth of the structures and the disorders related to the structures is needed for early prevention. It is still not clear that these signs and symptoms which are a deviation from the normal process are preclinical findings of a disorder, or they are part of adaptive response to the physiological changes of the craniofacial region (Bertoli FMdP et al, 2018).

Disorders caused by anxiety are a crucial challenge for present day society, because of which there are more researches done to understand the causes that trigger stress and there implication for improvement of the society (Bezerra BP et al, 2012).

TMD has been reported to occur more frequently among the university students as they more likely to face stressful conditions compared to those facing less stressful conditions (Muhammad S.Zafar et al, 2017).

The symptoms of TMD worsen over time; therefore, early diagnosis and timely management are important. This study evaluated, using the pre-formed questionnaire (Table 1), the prevalence and severity of TMD in undiagnosed dental undergraduates and postgraduates of BBDCODS, Lucknow. The characterization of volunteers with undiagnosed TMD would help understanding its prevalence among the students.

MATERIALS AND METHODS

The survey was conducted to assess the prevalence of temporomandibular disorders among the undergraduate and postgraduate students. A cross-sectional questionnaire based survey was employed to assess TMD in Babu Banarasi Das College of Dental Sciences (BBDCODS), Lucknow after obtaining permission from the Institutional Research Committee (IRC). A total 508 questionnaire were distributed among students and results were collected and analyzed statistically.

Questionnaire for self assessment of temporomandibular joint disorders (TMD) symptoms prevailing among dental students:

Name – **Age –** **Gender –**
Academic Year-

1) Do you have difficulty to open your mouth?
Yes( ) No( )

2) Is it difficult to move your mandible sideways?
Yes( ) No( )

3) Do you have restricted movement in your temporomandibular joint when you wake up in the morning?
Yes( ) No( )

4) Do you have reduced mouth opening?
Yes( ) No( )

5) Do you have difficulty in chewing food?
Yes( ) No( )

6) Do you have difficulty in yawning?
Yes( ) No( )

7) Do you have clicking sound in your temporomandibular joint while opening mouth or chewing?
Yes( ) No( )

8) Do you have headache or earache?
Yes( ) No( )

9) Do you clench or grind your teeth?
Yes( ) No( )

10) Did you ever had lock jaw?
Yes( ) No( )

11) Have you ever undergone orthodontic treatment?
Yes( ) No( ) Undergoing( )

12) Have you ever undergone treatment for Temporomandibular disorder?
Yes( ) No( ) Undergoing( )

RESULTS

This study was conducted to assess the TMD symptoms prevailing among the undergraduate and postgraduate students of Babu Banarasi Das College of Dental Sciences. A total of 508 questionnaires were distributed among which 89 were filled by postgraduate students and 419 undergraduate students (Table 1). Out of 508 questionnaires 209 were filled by males and 299 by females (Table 2).

Table 1: Distribution of participants on basis of their academic year

Academic Year	N	Percentage
Undergraduate	419	41%
Postgraduate	89	59%

Table 2: Gender distribution of Dental students

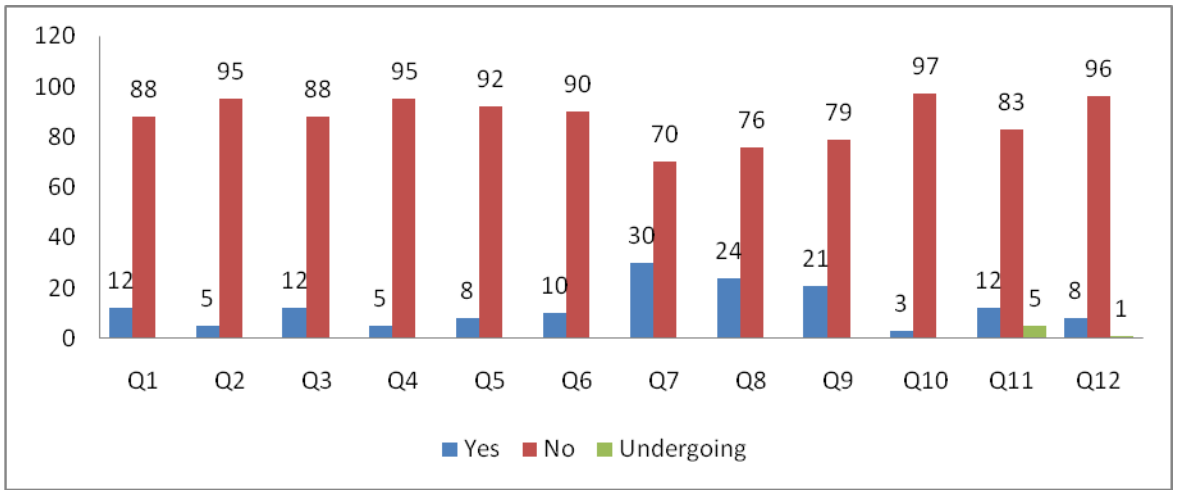
Gender	N	Percentage
Males	209	41%
Females	299	59%

30% of the students have clicking sound in their temporomandibular joint while opening mouth or chewing which were most common symptoms recorded. Headache or earache was recorded in 24% of the students and 21% of the students have habit of clenching or grinding their teeth (Graph 2). 12% of the students have difficulty in opening the mouth and have restricted movement when they wake up in the morning. 10% of students have difficulty in yawning and 8% have difficulty in chewing food. Students having difficulty to move the mandible sideways and reduced mouth opening was recorded same as 5%. 3% of the students had lock jaw which was recorded to be the least common symptom of TMD (Table 3) (Graph 1).

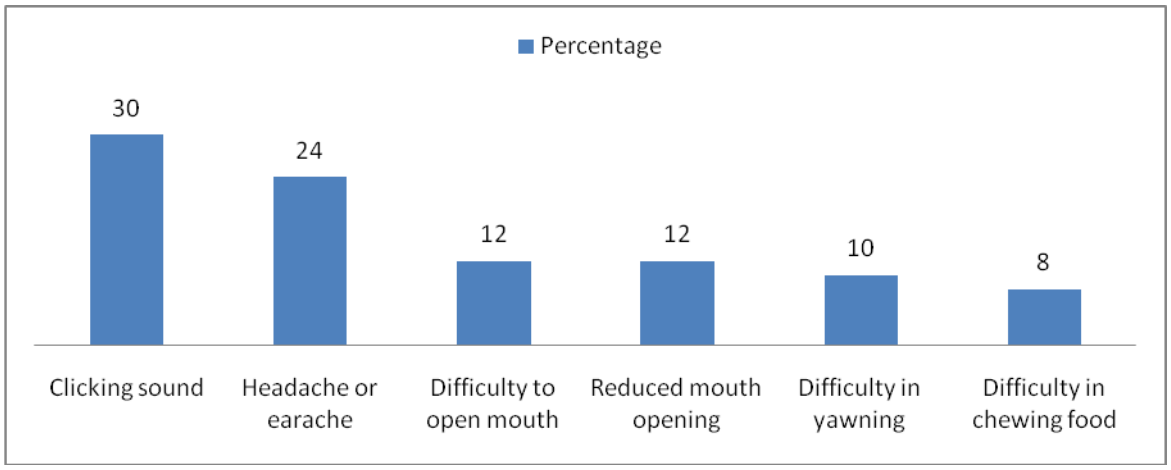
12% of the students have undergone orthodontic treatment earlier and 5% are undergoing orthodontic treatment. 15% of the students had undergone treatment for TMD and 1% is undergoing treatment for TMD (Table 3) (Graph 1).

Table 3: Response to the questionnaire from dental students

Question	Yes (n,%)	No (n,%)	Undergoing(n,%)
Q1	61 (12%)	447 (88%)	-
Q2	25 (5%)	483 (95%)	-
Q3	59 (12%)	449 (88%)	-
Q4	23 (5%)	485 (95%)	-
Q5	40 (8%)	468 (92%)	-
Q6	49 (10%)	459 (90%)	-
Q7	150 (30%)	358 (70%)	-
Q8	122 (24%)	386 (76%)	-
Q9	105 (21%)	403 (79%)	-
Q10	14 (3%)	494 (97%)	-
Q11	61 (12%)	424 (83%)	23 (5%)
Q12	15 (8%)	489 (96%)	4 (1%)



Graph 1: Response to the questionnaire from dental students (in percentage)



Graph 2: Most common symptoms of TMD among the students

DISCUSSION

Temporomandibular disorders include changes in the TMJ, masticatory muscles, teeth and associated structures. The changes in these structures affect huge part of the population having various signs and symptoms such as pain, reduced mouth opening, sound in the TMJ etc. Nevertheless, early diagnosis of this may be difficult due to the different symptoms among different patients and sometimes different symptoms in the same patients (Ryalat S et al, 2009).

In the present study the most common symptom of TMD was TMJ sounds which was reported in 30% of the students. Similarly, Bonjardim et al. (2009) reported that most prevalent subjective symptom was TMJ sound (26.72%) followed by headache (21.65%). Conti et al. (2003) also found TMJ sound to be the most common symptom followed by headache. Choudhary et al. (2016) found the most common symptom found was TMJ pain followed by joint sounds.

The association between the symptoms and signs of TMDs and gender has been reported in previous studies. Bagis et al (2012) conducted a study to find out gender difference in prevalence of signs and symptoms of temporomandibular joint disorders and concluded that the symptoms and sign of TMD are more commonly present in females than males. However in the present study female predominance cannot be recorded because of unequal ratio of males and females.

CONCLUSION

The results of this study allow us to conclude that TMJ sound was the most common symptom recorded among the students followed by headache and earache. Because of unequal number of male n female students, the gender predominance cannot be assessed. Further studies can be done with equal male and female ratio. There is a need for more studies to establish a correlation between the prevalence of sign and symptoms of TMD in students and the general public.

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