

PREVALENCE OF DISK DISPLACEMENT DISORDERS OF TMJ AMONG DENTAL STUDENTS

L.G.VIJAYAA LAKSHMI*

DR.VIVEK NARAYAN*

AIM : To find out the prevalence of disk displacement disorders of TMJ among the students attending a private dental institution.

DISCUSSION: Temporomandibular Disorders (TMDs) is a general term that indicates many clinical conditions involving masticatory muscles and temporomandibular joints and their associated structures. Characterizing of this clinical conditions by pain in the particular area, Temporomandibular joint (TMJ), deviation or limitation in range of mandible motions and TMJ sounds such as clicking, popping during mandible functions. Several factors such as emotional tensions, interference of occlusion, masticatory muscles, dental treatments, etc. are proposed as the etiological factors of TMD. Since dentistry is one of the stressful and challenging academic fields and much pressure applied on those working in this field, therefore, this study aimed to evaluate of TMD among dental students in Saveetha Dental College, Chennai.

RESULT : Among 100 participants 13 males and 87 females were screened.

Among 13 males 4 have the disk displacement and among 87 females 41 have disk displacement. Out of 100 students, 45 have been noted to have disk displacement. And 3 males and 22 females have disk displacement with reduction and 1 male and 16 female have disk displacement with intermittent interlocking and 2 females have disk displacement with reduction with limited mouth opening and 1 female have disk displacement without reduction without limited.

KEY WORDS : Temporomandibular joint (TMJ), Internal disc derangement, Oro facial pain, Temporomandibular joint (TMJ) disorder.

*** SAVEETHA DENTAL COLLEGE, POONAMALLEE, CHENNAI -77.**

INTRODUCTION :

Temporomandibular disorders (TMD) are the main non-dental cause of pain in the orofacial region among children and adolescents [1, 2]. Internal derangement (ID) of the temporomandibular joint (TMJ) is characterized by an abnormal relationship between the articular disk and the condyle, the glenoid fossa, and the articular eminence(3). The most common causes are trauma, which results in a sudden displacement of the disc, or chronic para function, which ends up in degenerative changes in the articular surfaces, increased friction, and gradual disk displacement.(4).

Internal derangement of the TMJ has been described as a progressive disorder with a natural history that may be classified into four consecutive clinical stages(5,6,7), stage one has been described as disk displacement with reduction, stage two as disk displacement with reduction and intermittent locking, stage three as disk displacement without reduction (closed lock), and stage four as disk displacement without reduction and with perforation of the disk or posterior attachment tissue (degenerative joint disease).

METHODOLOGY :

Total sample of 100 students were screened in Saveetha Dental College, Chennai including both males and females undergraduates. It is based on the RDC criteria of disk displacement. The first part consists of history taking and the second part is based on the clinical examination.

Disk displacement with reduction

1. TMJ noise present during jaw movement in the last 30 days (or) patient reports TMJ noise during the exam.
2. Clicking, popping or snapping detected by palpation during opening & closing (or) Clicking, popping or snapping detected by palpation during opening & closing along with lateral & protrusive movements.

Disk displacement with reduction with intermittent locking

1. TMJ noise present during jaw movement in the last 30 days (or) patient reports TMJ noise during the exam & jaw locks with a limited mouth opening for a moment & then unlocks.
2. Clicking, popping or snapping detected by palpation during opening & closing (and) along with lateral & protrusive movements.

Disk displacement without reduction with limited mouth opening

1. Restricted mouth opening resulting in inability to eat.
2. Assisted mouth opening < 40mm.

Disk displacement without reduction without limited mouth opening

1. Restricted mouth opening resulting in inability to eat.
2. Assisted mouth opening > or = 40mm.

RESULT :

Table-1

SEX	NUMBER
MALE	13
FEMALE	87
TOTAL	100

Fig.1

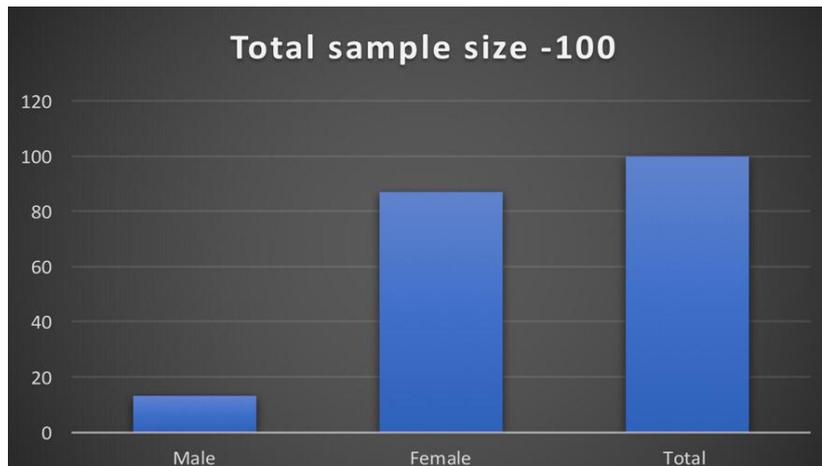


Table -1 shows the total number of 100 sample. Includes 13 males and 87 females.

Table-2

SEX	TOTAL NUMBER	DISC DISPLACEMENT DISORDER
MALE	13	4
FEMALE	87	41
TOTAL	100	45

Fig.2

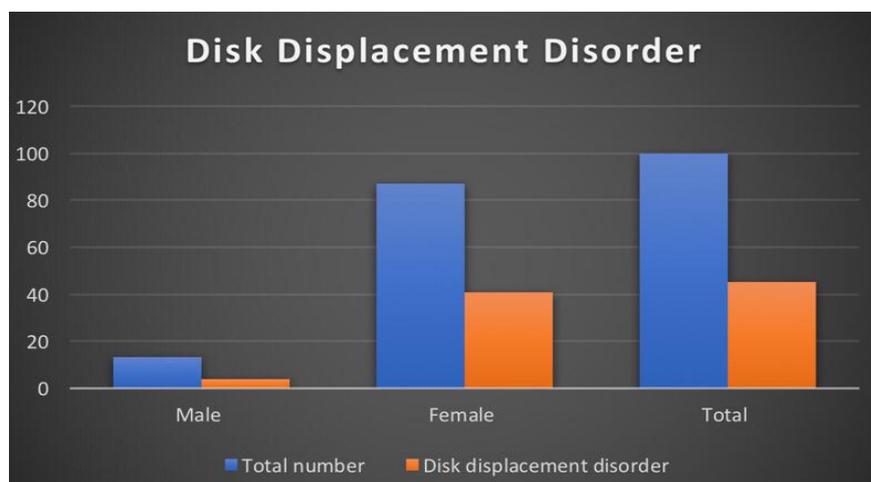
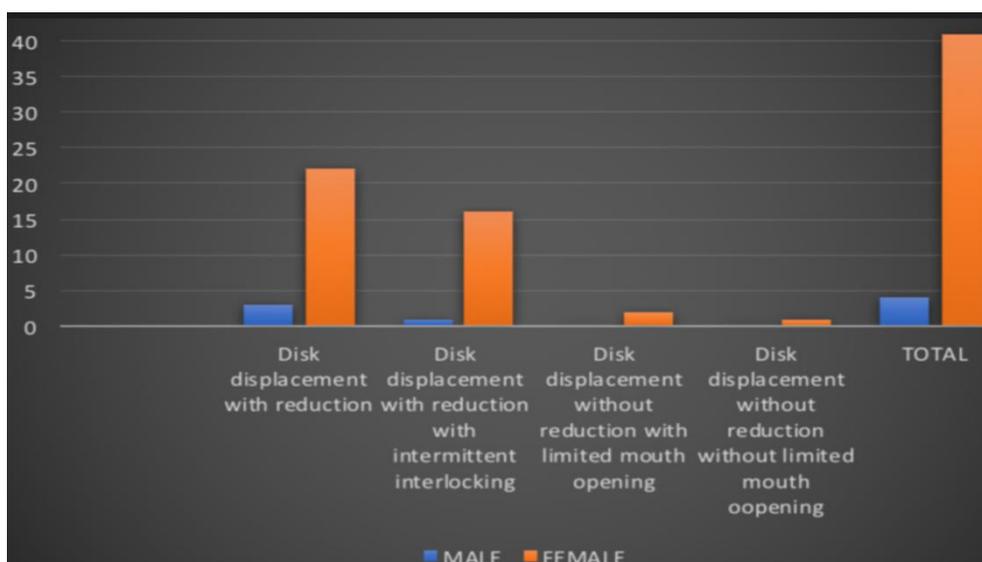


Table-2 shows the total number of male and female and the disk displacement in them . Among 13 males 4 have the disk displacement . Among 87 females 41 have disk displacement.Out of 100 students,45 have been noted to have disk displacement.

Table-3

DISK DISPLACEMENT	MALE	FEMALE
Disk displacement with reduction	3	22
Disk displacement with reduction with intermittent interlocking	1	16
Disk displacement without reduction with limited mouth opening	-	2
Disk displacement without reduction without limited mouth opening	-	1

Fig.3



Tabel-3 shows that 3 males and 22 females have disk displacement with reduction and 1 male and 16 female have disk displacement with intermittent interlocking and 2 females have disk displacement with reduction with limited mouth opening and 1 female have disk displacement without reduction without limited.

A total of 100 students were screened for Disk displacement of TMJ disorder. Disk displacement of TMJ includes 4 stages- stage one includes disk displacement with reduction, stage two as disk displacement with reduction and intermittent locking, stage three as disk displacement without reduction with limited mouth opening and stage four as disk displacement without reduction and without limited mouth opening

The study population consists of males and female of different age in Saveetha Dental College, Chennai. Among 100 participants 13 males and 87 females were screened.

Among 13 males 4 have the disk displacement and among 87 females 41 have disk displacement. Out of 100 students, 45 have been noted to have disk displacement. And 3 males and 22 females have disk displacement with reduction and 1 male and 16 female have disk displacement with intermittent interlocking and 2 females have disk displacement with reduction with limited mouth opening and 1 female have disk displacement without reduction without limited.

DISCUSSION :

This study presenting the prevalence of TMD-diagnoses according to the RDC classification among undergraduates of Saveetha Dental College. Temporomandibular disorders are the musculoskeletal conditions known for their chronicity. The prevalence difference was based on gender level. Regarding signs and symptoms from the present study, the TMJ sound, jaw pain, pain on movement of the jaw and parafunctional habits were the most important chief complaints among the students. It has been suggested that uncoordinated contraction of the two heads of the lateral pterygoid muscle are responsible for the noise. Previous literature has been suggestive of higher risk of TMDs in females stated by Dr. Karthik Hegde et al. [12]

The present study also exhibited the same. Factors responsible for such predilection include hormonal influences, stoic nature of males and higher pain sensitivity in females. Pain and joint sounds as the most common manifestations of TMJ dysfunction were revealed in the current study. An intercontinental research in 17 countries on 85052 adults supports that 62% of women and 38% of men suffer from TMD [9]. In similar studies in student populations the respective percentage is 65% for women and 35% for men [8,9]. In the presented study, a greater disproportion between the different genders was detected, showing that women are more susceptible to TMD than men. This may result from the hormone level fluctuation, biological differences, social position, or higher sensitivity to pain in women [10].

In the study by Casanova-Rosado and co-workers [22], disk displacement with reduction showed the highest prevalence (15.6 %), followed by myofascial pain (10.9 %) and disk displacements (6.1 %). [11] In the present study also the disk displacement with reduction showed the higher prevalence (25%) followed by disk displacement with reduction with

intermittent locking(17%). Limited mouth opening was observed in 89% of the patients, but it was not significantly different between the genders.[13] In the present study limited mouth opening was observed only 2% and disk displacement without reduction without limited mouth opening was observed 1%.

CONCLUSION :

The prevalence of TMD in undergraduate students population is 45%. TMD symptoms more often concern women. Emotional burden and excitability are factors that predispose to muscular disorders. The results based on RDC diagnoses are in accordance with current literature. The emotional stress, differences in family history, age, oral parafunctional habits and occlusal abnormalities appear to play an important role in the etiology of the temporomandibular joint disorders. Reducing stress among undergraduate students should remain a priority among public health interventions to allow them attain a competent health.

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