

## Original Research

### Assessment of TMDs among adult population

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#### ABSTRACT:

**Background:** Symptoms of TMD include pain in the masticatory muscles or in the jaw, as well as headache in the temple region. The present study was conducted to assess TMDs among adult population. **Materials & Methods:** 65 TMDs patients of both genders were enrolled. A self-reported TMD pain variable based on the question "pain in jaw-face region" and "headache," as well as a self-reported TMD dysfunction variable based on the questions "difficulty opening the mouth wide," "TMJ sounds," and "jaw locking" were recorded. **Results:** Out of 65 patients, males were 30 and females were 35. Clinical symptoms in male and female were TMJ pain 6 and 12, jaw muscle pain in 5 and 2, pain while opening mouth in 3 and 7, TMJ sounds in 10 and 4, headache in 2 and 5, difficult open mouth wide in 2 and 1 and TMJ locking in 2 and 4 respectively. The difference was significant ( $P < 0.05$ ). **Conclusion:** TMD is a multifactorial process with varying prevalence rates in different populations. High prevalence was reported in females as compared to males.

**Key words:** Temporomandibular disorders, TMJ locking, pain

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#### INTRODUCTION

Pain in the temporomandibular region is a common chronic pain condition, and temporomandibular disorders (TMD) is a collective term used to describe pain and functional disturbances of the masticatory system. Symptoms of TMD include pain in the masticatory muscles or in the jaw, as well as headache in the temple region.<sup>1</sup> TMD also includes symptoms in the temporomandibular joint (TMJ) such as joint sounds and restricted jaw mobility, as well as degenerative joint diseases.

The exact aetiology of TMD remains controversial, with multiple potential factors involved. These factors include trauma, occlusal imbalances, psychological factors, parafunctional habits (e.g., bruxism), and systemic factors (e.g., rheumatoid arthritis).<sup>2</sup> There are multiple other definitions in the literature for

TMD, which make interpreting research results complicated. Nevertheless, it is a common disease with high prevalence rates. Recently, a diagnostic criteria for temporomandibular disorders (DC/TMD) tool was recommended to be used instead, in both clinical and research settings. The TMD/ pain screener instrument is a self-reported questionnaire. Given its excellent sensitivity, specificity, and cost-effectiveness, it was chosen to screen the studied population for TMD pain.<sup>3</sup>

In several of the studies on youth, the clinical examination methods and questionnaires were similar to those used with adults.<sup>4</sup> However, it is reasonable to suggest that there are at least some important differences between adults and children or adolescents in how TMD manifests itself.<sup>5</sup> Biologically, the structures of a child's masticatory system, eg,

temporomandibular joint (TMJ), muscles, and teeth, arc undergoing differential patterns of growth and development.<sup>6</sup>The present study was conducted to assess TMDs among adult population.

**MATERIALS & METHODS**

The present study comprised of 65 TMDs patients of both genders. All were ready to participate in the study.

Data such as name, age, gender etc. was recorded. A self-reported TMD pain variable based on the question “pain in jaw-face region” and “headache,” as well as a selfreported TMD dysfunction variable based on the questions “difficulty opening the mouth wide,” “TMJ sounds,” and “jaw locking” were recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

**RESULTS**

**Table I Distribution of patients**

Total- 65		
Gender	Males	Females
Number	30	35

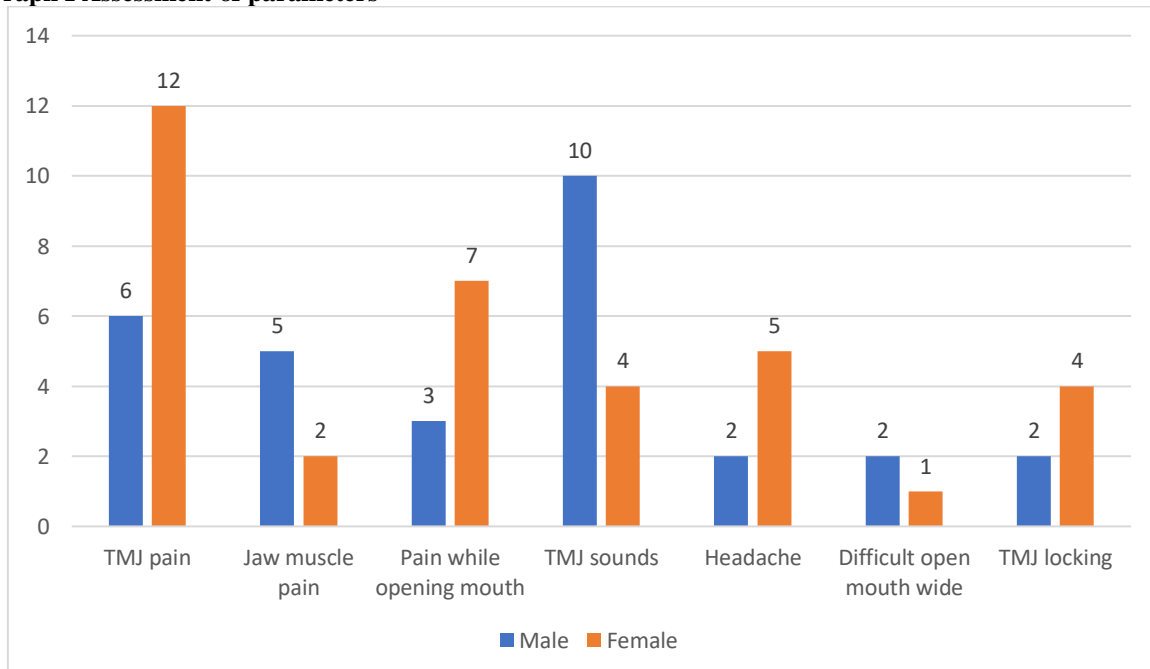
Table I shows that out of 65 patients, males were 30 and females were 35.

**Table II Assessment of parameters**

Clinical symptoms	Male	Female	P value
TMJ pain	6	12	0.05
Jaw muscle pain	5	2	
Pain while opening mouth	3	7	
TMJ sounds	10	4	
Headache	2	5	
Difficult open mouth wide	2	1	
TMJ locking	2	4	

Table II, graph I shows that clinical symptoms in male and female were TMJ pain in 6 and 12, jaw muscle pain in 5 and 2, pain while opening mouth in 3 and 7, TMJ sounds in 10 and 4, headache in 2 and 5, difficult open mouth wide in 2 and 1 and TMJ locking in 2 and 4 respectively. The difference was significant (P< 0.05).

**Graph I Assessment of parameters**



**DISCUSSION**

Temporomandibular joint dysfunction (TMD) can be defined as the variety of signs and symptoms assigned to the temporomandibular joint (TMJ) and its related structures, including joint noises, tenderness of the muscles of mastication, headaches, TMJ pain, face

and neck pain, decrease in mandibular range of motion, wear of dentition, parafunctional habits, tinnitus, and otalgia.<sup>7</sup> The exact aetiology of TMD remains controversial, with multiple potential factors involved.<sup>8</sup>These factors include trauma, occlusal imbalances, psychological factors, parafunctional

habits (e.g., bruxism), and systemic factors (e.g., rheumatoid arthritis).<sup>9</sup>The present study was conducted to assess TMDs among adult population.

We found that out of 65 patients, males were 30 and females were 35. Nadershah et al<sup>10</sup> assessed the prevalence of temporomandibular dysfunction (TMD) in adults. There were 250 females and 250 males participants. The mean age was 40.6 years. Answers to the first question showed that 52% of participants had no pain in the temple area, or jaw in the last 30 days, 46% of participants had intermittent pain, and 2% had persistent pain. Twenty-seven percent of participants had pain or stiffness in the jaw upon waking up, whereas 39% of participants had pain while chewing food, 29% experienced pain from opening the mouth or moving the jaw, 34% during jaw habits such as holding the teeth together, clenching, or chewing gum, and 18% during other jaw activities such as talking, kissing, or yawning. A total score of 3 or more was found in 175 participants, indicating a prevalence of 35%. TMD was significantly more prevalent in females.

We observed that clinical symptoms in male and female were TMJ pain in 6 and 12, jaw muscle pain in 5 and 2, pain while opening mouth in 3 and 7, TMJ sounds in 10 and 4, headache in 2 and 5, difficult open mouth wide in 2 and 1 and TMJ locking in 2 and 4 respectively. De Kanter RJ et al<sup>11</sup> assessed the prevalence of signs and symptoms of temporomandibular disorder (TMD) in 3526 patients. The TMD prevalence was based on perceived signs and symptoms of TMD and clinical examination of joint sounds, deviation, and pain on mandibular movements. A total of 21.5% of the adult population perceived some dysfunction, and 44.4% showed clinically assessed signs and symptoms of TMD. In nearly all age groups, the signs and symptoms of TMD appeared more in women than in men. Agreement between the results of the clinical examination and the anamnestic dysfunction index was significant; however, the Pearson's correlation coefficient was low. The odds-value (risk-ratio) that subjects who perceived signs and symptoms of TMD would present with clinically assessed signs and symptoms of TMD was 2.3. The results of the survey were compared with results of a meta-analysis performed on 51 TMD prevalence studies. The analysis revealed (1) a perceived dysfunction rate of 30% and a clinically assessed dysfunction of 44%, both based on compound samples of, respectively, over 15,000 and over 16,000 randomly selected subjects.

Hadler-Olsen E et al<sup>12</sup> observed that women had a higher prevalence of all self-reported and clinical signs of pain and dysfunction in the temporomandibular complex compared to men. For both genders, sounds from the temporomandibular joint (TMJ) upon clinical examination was the most common symptom, followed by pain to palpation of jaw muscles. Headache was the most common of the

self-reported symptoms and sounds from the TMJ the second most common. Young women had a higher prevalence of self-reported headache and jaw- and face pain compared to middle-aged and elderly women. TMD-related symptoms of pain were significantly associated with poor self-reported general health and correlated with OHQoL as assessed by the oral health impact profile 14 questionnaire. The limitation the study is small sample size.

## CONCLUSION

Authors found that TMD is a multifactorial process with varying prevalence rates in different populations. High prevalence was reported in females as compared to males.

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