

# Pattern of Temporomandibular Disorders (TMD) Among Patients Visiting Peshawar Dental College

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## Abstract

**Background and Objectives:** Early diagnosis of Temporomandibular disorders (TMD) is important for prevention of greater damages of the parts of the maxillofacial region. This study aims to determine the pattern of TMD among patient visiting Peshawar dental college.

**Methods:** A cross sectional study was conducted between the periods of January 2021-dec 2022 among the patient visiting oral medicine department of Peshawar dental hospital. Total sample size of 200 patients were assessed. TMJ evaluation form' index was used. Gender, age and all sign symptom's like pain, TMJ click, mouth opening, deviation were noted.

**Results:** Out of 200 patients 110 were female and 90 were male, with age range 10- to 80 years, 67 % patient present with TMJ click and pain both while 93% presented with TMJ click only. 15% present with limited mouth opening. The pain and click were the most common sign and symptoms noted.

**Conclusion:** TMD is a common problem and the severity of TMD was found higher among patient visiting Peshawar dental college. Temporo-mandibular joint disorders give association with gender.

**Key Words:** Temporomandibular Disorder, Temporomandibular Joint, TMJ evaluation

## Introduction:

The Temporomandibular Joints (TMJ), masticatory muscles and occlusion are typically included in the Temporomandibular Disorders (TMD) which are collection of signs and symptoms that affect the orofacial region.<sup>1,2</sup> The face region may be affected by a range of painful situations. Due to the complexity of these pains as well as the specific area of the body they affect, they are particularly important to the dental profession. As a result, many researchers suggest that the causes of TMD are multifactorial.<sup>3</sup>

The etiologic variables can include early loss of teeth, unilateral chewing, bruxism, occlusal disharmony, masticatory muscle exhaustion, emotional stress, oral habits, malignant growths, and other factors. They can also be a mix of these factors.<sup>4</sup> TMD is diagnosed by connecting signs and symptoms which might be common even in the community of people who are not

patients because of the variety of complaints.<sup>5</sup> The identification of pain as a significant symptom has increased research into the epidemiology and etiopathogenesis of TMDs. The literature indicates that TMD prevalence ranges from 20 to 50%.<sup>6</sup>

TMD is characterised by minimum mandibular mobility, limited mouth opening, and temporomandibular joint clicks, pops, and crepitations (TMJ).<sup>7</sup> Pain, poor quality of life, and stomatognathic work function are all key clinical features of TMPDS. With the help of TMJ evaluation form, we collected the initial TMJ data from the patients. This simple questionnaire makes it possible to gather data quickly, cheaply, and simply. Due to its frequency and the substantial societal and personal costs associated with its treatment, the purpose of this study was to focus on TMD among patients.

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Received: 7th April, 2022

Revised: 25<sup>th</sup> May, 2022

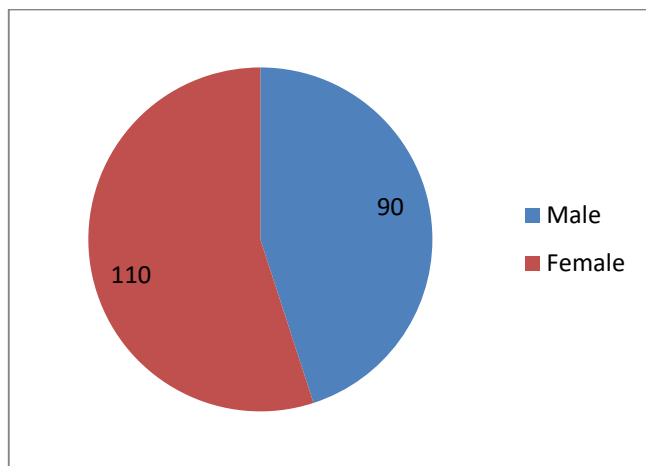
Accepted: 13<sup>th</sup> June, 2022

DOI: <https://doi.org/10.52442/jrcd.v3i1.68>

## Material and Methods:

The Peshawar Dental Hospital's oral medicine department conducted the study. There were 200 patients in total (110 female, 90 male). The study was approved by the Ethical Review Committee. The average age of these volunteers was 25.

## Results:



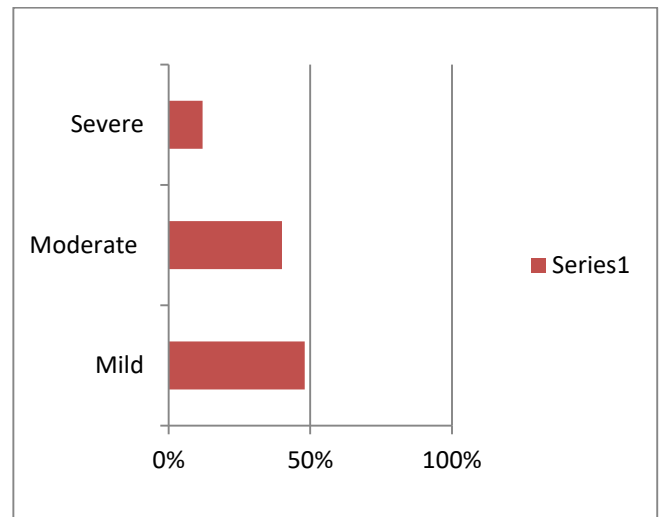
**Figure 1.** Gender distribution

The gender distribution is shown in figure 1. Along with the age distribution, its frequency and percentage in the table 1.

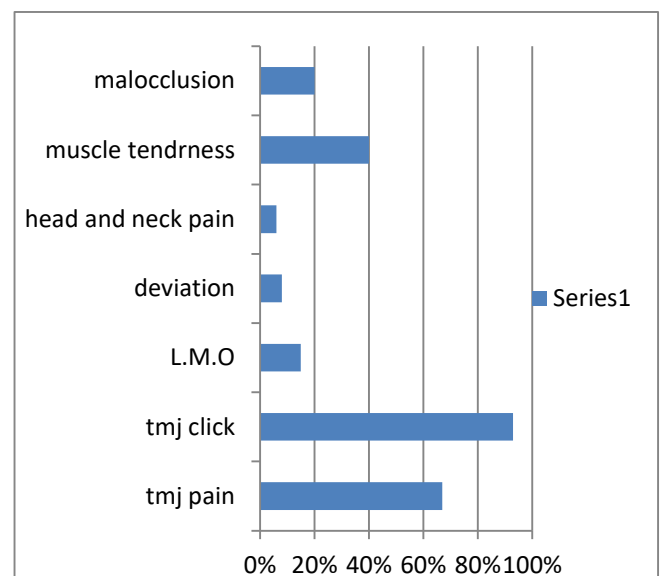
**Table 1.** Age distribution

Age range	Frequency	Percentage
10- 20	20	10%
21-30	70	35%
31-40	40	20%
41-50	25	12%
51-60	20	10%
61-71	25	12.50%

Figure 2 shows the pain distribution in the division of severe, moderate and mild. Figure 3, the sign and symptoms distribution in the form of malocclusion, muscle tenderness, head and neck pain, deviation, L.M.O, TMJ click and TMJ pain.



**Figure 2,** Pain Distribution



**Figure 3:** Sign and Symptoms Distribution

## Discussion:

The TMJ evaluation form makes it possible to gather a wealth of important data that could be invaluable for TMD early diagnosis. (TMJ evaluation form). In our sample (200 % )of patients,67% have symptoms of TMJ pain and click, 93% presented with TMJ click only.15% patients presents with limited mouth opening. The pain and click were the most common sign and symptoms noted. These findings concur with those of Rashid Habib et al. and Nomura et al..<sup>8,9</sup> Agerberg and Inkapool<sup>11</sup> discovered an even greater percentage of TMD indications and symptoms in the general population, 88.0% of 637 people. Manfredini et al.<sup>10</sup> identified a prevalence of TMD from 2.6% to 11.4% in the regular population, in various nations. On the other side, Carlsson <sup>12</sup> discovered that the prevalence of TMD ranges from 6.0% to 93.0%.

In our study, females (55%) had TMDS more frequently than males (45%).In line with our research, study by Ahuja et al found that female dentistry students had a greater incidence of TMDS (66%) than male dental students.<sup>13</sup>This is also in line with the findings of the Kitsoulis et al study, which has shown that TMDS affects more women than males and that it affects them more severely.<sup>14</sup>Literature also indicates that females are three times more likely than males to seek specialized therapy for this disorder. The idea that oestrogen receptor alters metabolic processes in women's TMJs, causing ligament laxity, is more common in women. Estrogen increases sensitivity to painful stimuli through altering the limbic system.<sup>15</sup>The fact that women have a lower pain and depression threshold than men may potentially contribute to the higher occurrence and severity of these conditions in women. Most number of patients in the 20-30 year age group was 70 (35%)<sup>16</sup>.The data of Manfredini et al. revealed a comparable peak incidence in 20 and 40 years. 20-30 years Young individuals are more vulnerable to TMDS as adults because they are first exposed to the pressures of education, career choice, job, and various societal pressures. The most frequent chief complaint (134 patients, 67%) was pain and click. Furthermore, discomfort and restricted mouth opening were observed in 30 patients (15%). <sup>10</sup>. Pain was likewise listed as the most typical presenting complaint in a study by Ogunlewe et al.<sup>17</sup>

In a similar way, the Kitsoulis et al investigation identified pain as the primary TMDS symptom.<sup>15</sup>Since a person cannot ignore the symptom of pain, it becomes the most prevalent presenting complaint. Joint click (93%) and limited mouth opening (15%)

were the two most common complaints.

Pain was the most prevalent symptom reported by Motta LJ et al, followed by joint sounds and, LMO (limited mouth opening).<sup>18</sup>Eweka et al. found that 95.2% of individuals reported pain and 35 percent of subjects reported clicking as a complaint.<sup>19</sup>According to Eweka et al. and others, limited mouth opening and clicking are two additional frequently observed symptoms of TMDS.Stress was the most prevalent known cause (26%) of illness, while 32% of patients had no known reason. Overall, 59% of patients reported experiencing stress. Similar to this, a study by Patil et al found that, when compared to controls, stress and depression were prevalent in 60% and 53.3%, respectively, of TMDS patients.<sup>20</sup>Symptoms of TMDS and stress are frequently closely related. It can be difficult to tell if continuous stress causes TMDS symptoms or whether TMDS causes chronic stress symptoms. It's a prevalent belief that psychological consequences of pain include sadness and somatization. <sup>21</sup> When it interferes with a patient's daily activities and social life, it can have an impact on their emotional and mental health. Dental clamping, in contrary, happens as a result of excessive tension, which alters the local muscle circulation and has an impact on ion exchange in cell membranes. As a result, lactic and pyruvic acid buildup stimulates pain receptors.

Trauma was cited as a factor in our study in 6% of cases, stress plus trauma in 15%, and stress, trauma, and bruxism together in 3% of cases. Osteoarthritis occurred in 9.1-11.5% of intracapsular fractures in the Kolk et al study, as well. People with TMDS have higher levels of stress, anxiety, depression, somatic awareness, pain catastrophizing, and kinesiphobia when compared to controls. <sup>22</sup>In our study, 32% of participants had clinical depression. Majumder et al. found 66.2% of TMDS patients to have anxiety and depression, in contrast. <sup>23</sup> Moreover, Celic et al. found that TMDS patients had higher levels of somatization and sadness. <sup>24</sup>The participants in our study who had not yet been diagnosed with clinical depression and who were not taking any psychiatric medications may be to blame for this discrepancy. Our study's limitation was the tiny sample size. This is most likely because the study was only conducted in one area. A psychologist or psychiatrist should always be consulted when working with TMDS patients because TMDS and biopsychosocial variables including increased anxiety, sadness, and stress are strongly associated.

**CONFLICT OF INTEREST:** None

**FUNDING SOURCES:** None

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#### How to cite this article?

Aman S, Mushtaq A, Younas M, Rehman Z, Rashid M, Ashraf N. Pattern of Temporomandibular Disorders (TMD) among patient visiting Peshawar Dental College. *J Rehman Coll Dent* 2022-3(1): 1-4

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5. Momena Rashid - Conceptualization and Study Design
6. Nida Ashraf - Proofreading