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# TREATMENT OF TEMPOROMANDIBULAR JOINT DYSFUNCTION CASES AT TEACHING HOSPITAL, AL-KHOMS, LIBYA

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## ABSTRACT

The Temporomandibular joint is the joint that connects your jaw to your skull. When this joint is injured or damaged, it can lead to a localized pain disorder called Temporomandibular joint dysfunction (TMJD). It is characterised by chronic facial pain and tenderness over one or both TMJs and associated muscles, often with limitation of jaw opening. TMJ dysfunction is associated with substantial morbidity and affects individual work productivity and quality of life. The aim of this study is to assess the different symptoms and its treatment in cases attended at Al-khoms teaching hospital, Libya. This Study was carried out in Al-khoms teaching Hospital during the period between 2016 and 2017. This study sample consists of 64 cases (39 male and 25 Female cases). TMJ dysfunction was diagnosed with detailed history andcareful clinical examination, imaging studies of the teeth and jaws. Treatment was decided in accordance with the nature of the TMJ dysfunction. Result conclude this research with male cases were more than the female cases. Severity prevalence is around 6%. TMJD's pain was observed more by Head ache, followed by mouth opening difficulty and Ear ache. Medication, Oral Splint usage and physiotherapy gave better treatment result for the mild and moderate cases. Surgery was undergone for the severe cases only.

**KKEYWORDS:** Temporomandibular joint dysfunction.

## INTRODUCTION

**Temporomandibular Joint** (TMJ) is a hinge that connects the lower jaw (mandible) to the temporal bones of the skull, which are in front of each ear. It helps the jaw move up and

down and side to side. Temporomandibular joint disorders (TMJ disorders) occur as a result of problems with the jaw, jaw joint and surrounding facial muscles that control chewing and moving the jaw. These disorders are also referred to as TMJ syndrome, TMJ dysfunction, or temporomandibular disorders (TMD) (De Oliveira et al., 2006). Tempro-Mandibular disorder (TMD) is a term used to describe a heterogeneous group of correlated anomalies involving the Tempro-Mandibular Joint (TMJ), cranio cervico facial muscles and occlusion, all of which have shared symptoms of orofacial pain, Earache, headache, articular clicking as well as impaired jaw movement (Habib et al., 2015; Gauer and Semidey, 2015).

TMJ dysfunction (TMJD) (myofacial pain dysfunction disorder syndrome, myofacial pain dysfunction, tempromandibular arthropathy, TMJ arthritis, psychogenic facial pain, and facial arthro-myalgia) have been identified as major cause of the non-dental pain in the orofacial region (Kerszun et al., 1998). It is characterised by chronic facial pain and tenderness over one or both TMJs and associated muscles, often with limitation of jaw opening (Feinman, 1983).

The prevalence of and risk factors for temporomandibular disorders (TMD) have been assessed in different study populations. In one survey of adults in the United Kingdom, the prevalence of orofacial pain was 26 percent, with 6 percent reporting pain in the temporomandibular joint (TMJ) and 6 percent reporting preauricular pain (Macfarlane et al., 2002). The prevalence of TMD is about 1.5 times higher in women than men (Von korff et al., 2013 and LeResche, 1997). TMD is associated with substantial morbidity and affects individual work productivity and quality of life. In the United States, it is estimated that for every 100 million working adults, TMD contributes to 17.8 million lost work days annually (Maixner et al., 2011).

Clinical practice guidelines have been developed around the world in line with the principle of evidence based medicine (EBM) by the GRADE (Grading of recommendations assessment, development and evaluation approach produced by the GRADE working group (GRADE, 2004). Much has studied and written about the TMJ dysfunctions aetiology and treatment. But where do we stand today with regard to actually providing appropriate treatment? The problems lie in the assumptions that are frequently made about “finding” the etiology of an individual patient’s problem, followed by “selection” of an appropriate anti-etiologic treatment strategy. The aim of this study is to assess the different symptoms and its treatment in cases attended at Al-khoms teaching hospital, Libya.

## MATERIALS AND METHODS

This Study was carried out in Al-khoms teaching Hospital during the period between 2016 and 2017. This study sample consists of 64 cases (39 male and 25 Female cases) who attended voluntarily to the hospital with the problems. Ethical approval was obtained from the Institutional Ethics Committee. Maxillo-facial Physician diagnosed the problem by evaluating for the presence of pain in TMJ, head, and while chewing, parafunctional habits, limitation of movements, joint clicking, perception of malocclusion and emotional stress. The measurement of facial pain and TMJD is complicated. There is no standard definition for TMJ Dysfunction. It is measured by asking about various types and durations of muscle, joint and facial pain, difficulty with chewing, joint sounds, etc.,

Patients involved in this study were complaining of:
Pain over the region of temporomandibular joint especially marked during movements of the joint, pain at the preauricular, post auricular and temporal region and rarely pain in the cervical area and may be acute or vague.

Joint noises (gratting, clicking and popping) produced during mastication(audible click or palpable crepitus over the joint during movements of the mandible, limited mouth opening less than 30 mm, limited lateral movement, deviation of the mandible towards the affected side due to restriction of movements of the condyle especially the gliding movement which seems to be more painful.

TMJ dysfunction was diagnosed with detailed history and careful clinical examination and imaging studies of the teeth and jaws. Treatment was decided in accordance with the nature of the TMJ dysfunction.

## RESULTS AND DISCUSSIONS

**Temporomandibular joint dysfunction** (**TMJD**) is an umbrella term covering pain and dysfunction of the muscles of mastication (the muscles that move the jaw) and the temporomandibular joints (the joints which connect the mandible to the skull). Treatments should be well controlled.

Present study related to TMJD in Al-khoms teaching Hospital, Libya was conducted for 2 years. Study with gender-wise distribution is tabled in Table 1. This result shows that male cases are more than the female cases. Male cases with mild TMJD (39.06%) were more and 4

cases (6.25% with severe TMJD. This result with more male cases is in contradictory to the other researchers (Bugaigjos et al., 2017 and Edwab, 2003). The prevalence of temporomandibular joint and muscle disfunction is between 5% and 12%. In this study also, the prevalence of severe cases are 6.25%.

**Table 1: Gender-wise distribution of TMJ dysfunction severity.**

| S. No. | Gender | Mild, n(%) | Moderate, n(%) | Severe n(%) | Total, n(%) |
|---|---|---|---|---|---|
| 1 | Male | 25 (39.06) | 10 (15.63) | 4 (06.25) | 39 (60.94) |
| 2 | Female | 18 (28.13) | 05 (07.81) | 2 (03.13) | 25 (39.06) |
| | Total | 43 (67.19) | 15 (23.44) | 6 (09.38) | 64 (100.00) |

N=%from the total number of cases

The mild TMJ dysfunction's symptoms were the most prevalent category reported by the participants in this study. This is similar to the studies performed by Dekon *et al*.,(2002) and Pedroni *et al*., (2003).

**Table 2: Different symptoms of TMJ dysfunction.**

| S.No. | TMJ dysfunction problem | Mild | Moderate | Severe | Total |
|---|---|---|---|---|---|
| **MALE** | | | | | |
| 1 | Mouth opening difficulty | 07 | 03 | 01 | 11 |
| 2 | Orofacial pain | 05 | 02 | 01 | 08 |
| 3 | Head ache | 08 | 00 | 00 | 08 |
| 4 | Ear ache/TMJ pain | 03 | 02 | 00 | 05 |
| 5 | TMJ clicking | 00 | 03 | 02 | 05 |
| **FEMALE** | | | | | |
| 1 | Mouth opening difficulty | 02 | 01 | 01 | 04 |
| 2 | Orofacial pain | 05 | 01 | 00 | 06 |
| 3 | Head ache | 07 | 02 | 00 | 09 |
| 4 | Ear ache/TMJ pain | 04 | 01 | 00 | 05 |
| 5 | TMJ clicking | 00 | 00 | 01 | 01 |

Table 2 explains the different symptoms of TMJD among male and female cases. These symptoms were diagnosed by the examination of Maxillo-facial Dentist and categorised. Among the different modalities (Mild, moderate and severe) of the TMJD are subcategorised in accordance with the symptoms during diagnosing, which helped for the proper treatment and fast recovery. In both male and female, mild cases with complain of Head ache were more in male and female gender followed by mouth opening difficulty and Ear ache/TMJ pain. This result is similar to the previous findings which linked head and neck trauma with TMJ symptoms such as joint pain, restricted mouth opening, and tenderness of the masticatory muscles (Choi et al., 2002; Klobas et al., 2004 and Karthik et al., 2017).

Muscle pain is by the role of both peripheral and central sensitisation factors. The chemical mediators released from damaged tissue cells, mast cells, and platelets can either activate or sensitize free nerve endings in muscle tissue. Also, sympathetic stimulation of these endings in muscle can occur following injury or inflammation (Lewin et al., 1994).

The objective of TMD treatments generally should be to make patients more comfortable (palliation) as the above adaptations are occurring, while also enhancing the amount of recovery as much as possible. These treatments should be selected on the basis of the clinical subdiagnoses of myogenous and/or arthrogenous conditions, as defined by the AAOP Guidelines (American Academy of Orofacial Pain, 1996) and by Dworkin and LeResche in the Research Diagnostic Criteria for TMJ Dysfunction (Stohler, 1999). The treatment is based on the use of conservative and reversible therapeutic modalities.

**Table 3: Different treatment method for TMJ dysfunction.**

| S. No. | TMJ dysfunction problem | Treatment method |
|---|---|---|
| 1 | Mild | Pain relievers and antiinflammatories, Antidepressant medication |
| 2 | Moderate | Pain relievers, Oral splints or mouth guard, Physiotherapy, |
| 3 | Severe | Arthrocentasis orTMJ Arthroscopy Surgery, Pain relievers and Antibiotics medication. |

Different treatment method for the TMJ dysfunction is focused in the table 3. Only in the severe cases, surgery (Arthroscopy) has performed for the better pain relief and permanent correction. Other cases (Mild and Moderate) were treated with simple medications, Oral splints and physiotherapy. Here the treatment was performed in relation to the modalities of the cases.

Since no specific therapies have been proven to be uniformly effective, many of the conservative modalities have provided at least palliative relief from symptoms without producing harm. Yuasa et al., (2013) also ascertain that the TMJ dysfunction specialists around the world recommend that the treatment is based on Etiological factors, severity and age of the cases.

## CONCLUSION

Result conclude this research with male cases were more than the female cases. Severity prevalence is around 6%. TMJD's pain was observed more by Head ache, followed by mouth opening difficulty and Ear ache. Medication, Oral Splint usage and physiotherapy gave better

treatment result for the mild and moderate cases. Surgery was undergone for the severe cases only. Hopefully, these diverse scientific investigations will lead ultimately to specific therapies for each kind of TMJ dysfunction. Fortunately, an enough scientific information to enable to treat the majority of TMJ dysfunction patients to relief from pain, return to more normal function and avoidance of iatrogenic harm.

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