OBJECTIVE: Facial pain is considered to be one of the most common chronic head and neck pain seen in routine dental practice\(^1\),\(^2\). Myofacial pain dysfunction syndrome is much more frequent finding within the larger chronic pain umbrella of head and neck pain\(^3\),\(^4\). The purpose of this study was to observe factors associated with myofacial dysfunction syndrome in patients attending the operative department of Hamdard University Dental Hospital.

METHODOLOGY: One hundred and five patients with Myofacial pain dysfunction syndrome were examined. The factors that were recorded were: age, gender, marital status, masticatory muscle tenderness, presence of joint sounds, parafunctional habits, neck pain, headache, and stress related to domestic issues, and history of poor sleep pattern.

RESULTS: One hundred and five patients were studied, and out of them 89 were females and 16 males. The selected subjects were between 19 to 70 years. Stressful life style and tenderness of temporalis muscle were frequent finding.

CONCLUSION: Domestic stresses are closely associated with patients suffering from MPDS patients. Patients present with a myriad of sign and symptoms of varying intensity. Proper history and examination are very important to make a proper diagnosis. Counseling the patients on how to cope with stresses should be an integral part in managing these patients along with pharmacotherapy where indicated.

KEYWORDS: Myofacial pain dysfunction syndrome, Stress, Mastication.


INTRODUCTION

One of the most common forms of temporomandibular joint (TMJ) disorders is myofacial pain dysfunction syndrome. Pathology in masticatory apparatus can lead to pain and poor function of TMJ\(^1\)-\(^4\). It is not uncommon that patient suffering from myofacial pain dysfunction syndrome (MPDS) consult dentist for tooth ache\(^5\),\(^6\). MPDS is usually associated with joint pain, pain in muscle of mastications, limited mouth opening and deviation of jaw. Other symptoms that are commonly seen are headaches, ear ache and fracture of teeth\(^7\),\(^8\).

Occlusal disharmony and psychosocial variable also have been shown to play an aggravating role in MPDS\(^8\),\(^9\). Current management of MPDS now also takes into account the psychological aspects of this disorder\(^9\). There is however still an ongoing debate regarding the primary cause of the problem.

METHODOLOGY

This descriptive cross sectional study was carried out on out-patients attending department of operative dentistry at Hamdard University Dental Hospital, Karachi.

All patients referred were labeled as suspected MPDS by the filter clinic, which serves as the first port-of-call for all new patients. The study was conducted over a period of one calendar year between 1\(^{st}\) June 2012 and 31\(^{st}\) 2013.
**DIAGNOSTIC CRITERIA**

Patient with complain of pain in TMJ and Pre-auricular area, clicking sound, limited mouth opening and associated pain in muscles of mastication were selected by the filter clinic and referred to the Operative department for thorough evaluation of MPDS.

One hundred and five patients with MPDS were included and the following variables were evaluated:
1. Involvement of individual masticatory muscle
2. Stressful life style
3. Limited mouth opening (Helkimo Index)
4. TMJ pain
5. Pain in neck muscles
7. Habits such as bruxism and clenching

Examination of muscle of mastication and neck muscles by digital palpation is a well accepted method. In normal circumstances the muscle is not tender to touch. In this method we use middle figure, index figure and thumb in continuous method. Also tissues around the muscle should be pressed by fingers rotationally. Patients were also questioned about stresses related to financial and domestic issues.

According to Helkimo Index, incisor edges gap is measured when the patient open the mouth widely. The mouth opening is labeled as “slight limitation” if it is between 30 to 39 mm and called “severe limitation” if it is less than 30 mm. It is considered to be within normal limits if it is 40 mm or more.

Jaw deviation was described as deviation on any side in this study. Deviation means that during mouth opening, jaw deviates to one side and it returns to its normal position while closing. The patient was asked about pain in and around TMJ and pre-auricular area.

The patients were also questioned regarding parafunctional habits particularly in stressful episode of life.

**RESULTS**

One hundred and five patients (105) were studied consisting of 89 (85%) females and 16 males. The age range was between 19 and 70 years; the majority fell between 20 to 40 years old. 97 subjects out of 105 (92%) were married. It was observed that housewives constituted the majority, comprising 78 out of 105 (74%) of the patients.

The data is shown in table 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>37.5</td>
<td>38</td>
</tr>
<tr>
<td>Marital status</td>
<td>82 (Married); 7 (Single)</td>
<td>15 (Married); 1 (Single)</td>
</tr>
<tr>
<td>Stressful life style</td>
<td>86</td>
<td>16</td>
</tr>
<tr>
<td>Occupation (Majority)</td>
<td>78 (House wives)</td>
<td>12 (Business men)</td>
</tr>
<tr>
<td>Muscle tenderness</td>
<td>82 (Temporals)</td>
<td>10 (Temporals / Headache)</td>
</tr>
<tr>
<td>Head Ache</td>
<td>82</td>
<td>10</td>
</tr>
<tr>
<td>Parafunctional habits</td>
<td>63</td>
<td>10</td>
</tr>
<tr>
<td>Neck pain</td>
<td>74</td>
<td>9</td>
</tr>
<tr>
<td>Poor sleep pattern</td>
<td>66</td>
<td>8</td>
</tr>
<tr>
<td>Sensitivity of teeth</td>
<td>59</td>
<td>14</td>
</tr>
<tr>
<td>History of Gastric reflux</td>
<td>79</td>
<td>9</td>
</tr>
<tr>
<td>Limitation of mouth opening</td>
<td>54</td>
<td>12</td>
</tr>
<tr>
<td>Clicking</td>
<td>57</td>
<td>8</td>
</tr>
<tr>
<td>Deviation</td>
<td>54</td>
<td>8</td>
</tr>
<tr>
<td>Ear ache</td>
<td>30</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 1: Frequency of variables related to myofascial pain dysfunction syndrome

**DISCUSSION**

It was observe that housewives constitute the bulk of the MPDS patients in the current study. This may be because of the morning timing of dental hospital; this timing tends to suit house wife who constitute the bulk of the 105 patients. Moreover a female patient also seems to have an early help-seeking behavior.

Result of the study shows that stress is a contributing factor in the MPDS patients. Positive history of stressful lifestyle was almost equally present in both the genders (100% in males, vs. 96% in females). In our patriarchal society, females can be under additional domestic stress, and this may be an added stratum of stress in the female patients. The contribution of domestic stress on MPDS in our society need to be further explored.

In the current study, the mean age of subjects was 37 years whereas in the studies done by other investigators such as Honarmand, Madani, De Boever and Altinday, they were 32.4, 26.67, 33.5 and 31.3 respectively. Thus, the most common age of presentation of...
this syndrome is between 2nd and 4th decade, by this might be because of also validates this finding.\textsuperscript{18,19} This might be due to great increase in responsibilities and stresses both on male and female after their marriages, especially in a joint family setting, which is more of a norm in our culture.

Madland, Carlsson and Rollman also confirm that patients with MPDS show decreased tolerance in coping with daily problems; have increase in anger; excessive and forceful muscular contraction. The increases the pain episode in these patients also contribute to their psychological liability \textsuperscript{20-22}. A study conducted by Madani, Darbandi, Yap and Deoliveira\textsuperscript{11-14} concluded that MPDS is more common in females. This may be because female are more sensitive to pain, and psychological and domestic stresses, which may result in seeking help earlier, whereas the male counterpart tend to delay seeking help till pain intensity becomes unmanageable \textsuperscript{23,24}.

In our study the most common muscle involved was temporalis (87.6 %), and this is in contrary to study by, Darbandi which shows the most common muscle involvement was lateral pterygoid muscle (82.68%). This may be because of common complaint of headache in female patients in our population. It has been shown that headache in females in our population are frequently associated with depression and migraine\textsuperscript{23,24} and this should be excluded in patient with MPDS.

Limited mouth opening was observed in 63% of patients whereas Madani and Darbandi have reported 26% and 40.38%, respectively. These differences may well be due to the involvement of temporalis muscle in our study population or the result of difference in number of samples and measuring factors \textsuperscript{11-12}.

In our study, 70 % of the patients reported to have bruxism, whereas the scales reported by Honarmand, were 45.6%, 38% and 68.9% respectively \textsuperscript{5}. In MFPD syndrome bruxism and clenching are common findings. Muscle contraction for longer episode during clenching prevents adequate blood supply to the muscle and results in accumulation of CO\textsubscript{2} and painful metabolic products in muscle, which finally leads to pain, fatigue and muscular spasm \textsuperscript{15}.

Headache, ear ache and neck pain is also very common finding in these patients \textsuperscript{12}. In our current study, headache was more common than ear ache and neck pain.

**CONCLUSION**

The patient with MPDS present with a myriad of sign and symptoms which may be persistent or episodic. There is a significant background of a variety of stresses, like social, economical, domestic and security issues, particularly in reference of the current volatile law and order situation of the Country in general, and Karachi city in particular. The treating clinician needs to be aware of the psychological aspects of MPDS, and should be able to explore this factor in order to provide a more holistic care and where applicable psychiatric referral should be sought.

**REFERENCES**