Prevalence of myofascial pain in students of selected secondary schools in Baghdad city

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ABSTRACT
Background: Myofascial face pain (MFP) is painful disorder of masticatory muscles thought to be the most common type of temporomandibular disorder (TMD). This study was done to evaluate the prevalence of MFP in students of secondary schools of Baghdad city.

Materials and methods: The sample comprised 242 females' students and 222 males' students of secondary schools, aged 17-18 years. The MFP evaluated according to the specific screening questionnaire of research diagnostic criteria of temporomandibular disorders (RDC/TMD) axis I with clinical examination.

Results: The study revealed that (50.8%) of the students had history of pain where females reported higher percentage than males with statistical significant difference. The history of pain in muscles of mastication was higher than joint pain in both genders. After clinical examination this study also showed that (25.4%) of students with history of pain had MFP. The differences between both genders regarding the diagnosis of MFP were higher in females than males but statistically not significant.

Conclusion: high percentage of students reported a history of pain which could be attributed to MFP in (25.4%) of the students. The prevalence of pain history and MFP was higher in females than males.

Keywords: Myofascial pain, temporomandibular disorders, orofacial pain.

INTRODUCTION
Myofascial pain (MFP) is very common. It is complex because of the singularities of the trigeminal nervous system, which often leads to spread and diffuse pain (1). TMD is characterized by functional abnormalities and/or musculoskeletal pain at the masticatory muscles. Pain can be continuous or occasional and brief during mastication, and it is frequently associated with jaw restricted movements and joint sounds (2). It is present in 16–59% of the population (5).

Etiological factors of TMD are undefined and include anatomical, articular, neuromuscular and psychological factors (3; 4). Psychological aspects, coping and catastrophizing differ among orofacial pains. TMD is considered easily handled by patients when compared to neurovascular headaches, e.g. tension headaches that have similar symptoms and signs (5). Levels of anxiety, depression, and illness behavior change during time, depending on external factors (e.g. family, job) and the course of the disease (e.g. pain intensity, crises) (5-6).

Previous studies reported that over one-third of adolescents were under stress (8; 9). Many of these emotional disturbances seem to be caused by school-related stress such as inappropriate workloads or assignments, examinations, falling behind compared to others and inappropriate treatment by teachers (9). There are many studies about the psychological aspects of TMD, and in general they are similar to other chronic pain syndromes in many samples around the world (10; 11).

As there is no previous Iraqi study concerned in the prevalence of MFP in the school’s student of Baghdad city, this study was done to evaluate the prevalence of MFP in students of secondary schools of Baghdad city in relation to gender by history and clinical examination.

MATERIALS AND METHODS
This study was carried out in selected secondary schools of Baghdad city for assessment of Myofascial pain (MFP) in students according to the research diagnostic criteria of TMD (RDC/TMD axis I) which is the most successful diagnostic protocol for temporomandibular muscle and joint disorder (12). The RDC/TMD Axis I is standardized series of diagnostic tests based on clinical signs and symptoms. Diagnostic algorithms using different combination of clinical and questionnaire measures are used to
differentiate eight RDC/TMD-defined Axis I diagnosis for TMD. These diagnoses include:

Ia- Myofascial pain.
Ib- Myofascial pain with limited opening.
IIa- Disc displacement with reduction.
IIb- Disc displacement without reduction with limited opening.
IIIa- Disc displacement without reduction without limited opening.
IIIa- Arthralgia.
IIIb- Osteoarthritis.
IIIc- Osteoarthrosis

The sample size was (464) of students in the fifth and sixth class(242 females and 222 males) in some secondary schools in Baghdad city subjected to specific screening questionnaire for Myofascial pain and TMD according to the RDC/TMD (Axis I)from December 2010 to April 2011. A questionnaire inquiring about the initial joint symptoms was filled by the students. Subjects gave their informed consent and the local ethical committee approval. The selected students whom subjected to clinical examination had no history of head injury and without orthodontic treatment, dental pain, muscle tenderness due to systemic diseases as fibromyalgia, neuralgia or local infection and had no more than 2 missing posterior teeth.

The students who had pain in the face, jaw, temple, priauricular or in the ear and headaches or migraine is the most common of vascular headaches which cause pain of face and jaw, it start with prodromal aura that is usually visual includes flashing lights or localized area of depressed vision followed by increasingly severe unilateral throbbing headache that is frequently accompanied by nausea and vomiting or pain that limit these activities: chewing, exercising, eating hard or soft food or drinking, smiling, oral hygiene, yawning and talking.

After clinical examination this study showed that (60, 25.4%) of students with history of pain had MFP according to the RDC/TMD (54, 22.8% females and 6, 2.5% males), table (1).

The differences between both genders regarding these finding were higher in females than males but statistically not significant as listed in table (3).

Table 1: The percentage of students with pain history and MFP according to gender

<table>
<thead>
<tr>
<th>Variables</th>
<th>Female</th>
<th>Males</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain history</td>
<td>No %</td>
<td>No %</td>
<td>No %</td>
</tr>
<tr>
<td>MFP</td>
<td>54</td>
<td>22.8</td>
<td>54</td>
</tr>
</tbody>
</table>

Table 2: The differences in the frequency of pain history between both genders

<table>
<thead>
<tr>
<th>Pain history</th>
<th>Female</th>
<th>Males</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jaw joint</td>
<td>No %</td>
<td>No %</td>
<td>No %</td>
</tr>
<tr>
<td>MFP</td>
<td>158</td>
<td>82</td>
<td>86</td>
</tr>
</tbody>
</table>

P value =0.022 (Significant by chi square test)
DISCUSSION
This study revealed that the percentage of students in the secondary schools (17-18) years old with pain history were relatively higher than the percentage reported by other studies (17,18). The higher percentage of pain may be due to other causes (complaints of pain are often related with depression, migraine, stress and tension-type headaches) rather TMD pain. Complaints of pain are often related with depression and school related stress. Several authors have observed that the prevalence of psychological distress is higher among students than among working nonstudent populations of the same sex and age (19).

The history of pain was reported higher in females than males with statistical significant differences generally females have more signs and symptoms than males. This is in agreement with other reports in the literature (20, 17). It has been stated that these sex differences could probably be explained by mental factors i.e. young females seem to present a lower pain threshold (20) Other factors such as stress is well known from TMD studies in adults that women are more affected than men (20,21). Sex difference may also be explained by some physiological changes seen at pubescence, as in the present study. The pattern of onset of TMD after puberty and lowered prevalence rates in the postmenopausal years suggest that female reproductive hormones may play an etiologic role in temporomandibular disorders (22). This is also supported by the longitudinal data reported by Magnusson et al., 2005 (23). They found that gender difference in signs and symptoms was small in childhood, but from late adolescence females reported more symptoms and exhibited more clinical signs than males did.

History of pain was recorded higher in the muscles of mastication than joint pain in both genders. Lobbezoo et al at 2004 (24) revealed that between 50% and 70% of all patients with TMDs reported masticatory muscle pain, and in 25% of these patients, pain in masticatory muscle is the principle source of pain. This study showed that (25.4%) of students with history of pain had MFP according to the RDC/TMD. This percentage agrees with the results that observed in previous studies (25, 17, 18) and higher than that observed in another’s (26, 27), this disagreement may be related to different samples and different examining methods. The higher prevalence of MFP in females than in males has been attributed to an interaction of a variety of factors ranging from biological and hormonal factors to psychological and social ones.

REFERENCES
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