Temporomandibular joint disorders among a group of patients attending the Oral Diagnosis Clinic of the School of Dentistry at University of Sulaimani, Iraq

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Abstract

Objectives: The objectives of the present study was to find the number of subjects and distribution, etiology and some associated factors of TMJ problems of patients attending the Oral Diagnosis Clinic at the School of Dentistry/ University of Sulaimani.

Materials and Methods: A retrospective study consists of available case-sheet records for patients attended the clinic of Oral Diagnosis of the School of Dentistry at the University of Sulaimani within one academic year (2013-2014) and consisted of 1325 patients aged from 10-79 years; 650 males (49.05%) and 675 females (50.94%).

Results: Out of 53 (0.04%) patients who complained of TMJ problems, 30 patients were males (56.6%) and 23 patients were females (43.4%). The highest numbers of patients seen were from the younger age groups (20-30 years; n= 37, 69.8%). The pain was the most prevalent reported symptom followed by clicking in the joints and more than half of patients reported emotional stress as a causative factor. About one-third of the patients reported that their TMJ problems have affected their functional activities, and also only one-third of the patients reported ear symptoms.

Conclusions: TMD patients require a special kind of attention due the multifactorial nature of the condition and the wide range of clinical manifestations that may be associated with the condition. Furthermore, the impact of the condition on the general health and the quality of life are clearly evident and should not be overlooked by any clinician who encounters such patients.

Keywords: *TMD, TMJ dysfunction, TMJ pain.*

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Introduction:

Temporomandibular joint disorder (TMD) represents a common health problem[1]. It is an umbrella term embracing a number of clinical manifestations that involve the temporomandibular joint (TMJ), the masticatory muscles, and the teeth. Recent research reveals that TMJ dysfunctions (TMJD) represent a complex family of heterogeneous disorders influenced by genes, sex, age, environmental, and behavioral triggers[2]. It is becoming increasingly apparent that TMJD may be associated with multiple clinical manifestations and a variety of systemic disorders that extend beyond the jaw[3].

Patients with TMD usually suffer from muscle and/ or joint pain on palpation and mandibular movements, joint sounds and the mandibular range of motion may be limited[4]. TMD can affect any patients regardless of age (including children)[5] or gender with varying signs and symptoms[6]. However, due to the variation in symptoms among different patients and in the same patient at different times, the diagnosis of this clinical entity may be difficult[7]. To a large extent, these conditions remain poorly understood, and there exist a plethora of approaches to diagnosis and classification[2,8].

The prevalence of TMD in the general population is high[9], between 40% to 60%. In a study, 87% of a sample of 1040 subjects reported to had one or more positive symptoms or clinical signs of TMD[6]. Individuals with low self-esteem are more likely to suffer from TMD[10], psychological and emotional factors are clearly involved in the development of the disorder[11].

The objectives of the present research was to find the number of patients and distribution, etiology and some associated factors of TMJ problems from patients seeking professional assistance for TMJ problems in the clinic of oral diagnosis at the School of Dentistry/ University of Sulaimani.

Materials and Methods:

The study sample collected from patient examination case sheet records' files in the Oral Diagnosis Clinic of the School of Dentistry at the University of Sulaimani within one academic year (2013-2014) and consisted of 1325 patients aged from 10-79 years; 650 males (49.05%) and 675 females (50.94%).

Descriptive analysis was performed for the distribution of these subjects by age groups, sex, and chief complaint of the patient. Etiological factors, like; emotional stress, trauma by dental work and trauma to the head and neck region were also prescribed. Furthermore, the effects of TMJ problems were also assessed through the presence of ear symptoms and interfere with functional activities. For analysis purposes and simplicity of data presentation, the patients were divided into (4 groups) by age, Table 1.

Results:

Out of 53 (0.04%) patients who complained of TMJ problems, 30 patients were males (56.6%) and 23 patients were females (43.4%). The highest numbers of patients were seen within the second age group (20-30 years; n= 37, 69.8%) as shown in Table 1. Feeling of pain was found to be the most prevalent reported symptom for TMJ problems (39.6%) followed by clicking in the joints (34%), Table 2.

More than half of patients (54.7%) reported emotional stress as a causative factor for their TMJ problems. Some patients reported trauma to the head and neck region or during the dental treatment session as the causative factor, Table 3.

About one-third of all the patients (32.1%) reported that their TMJ problem had affected their functional activities (chewing, speaking, eating … etc) or had ear symptoms (32.1), Table 4.

Discussion:

The present retrospective study examines the number of patients visited the Oral Diagnosis Clinic (School of Dentistry/University of Sulaimani) for TMJ problems during one academic year. Although more males were seen in this study, crossectional population-based studies showed that TMJ dysfunctions and problems are twice as common in females as in males[12–14]. While no conclusions have been proposed regarding

Table 1: Distribution of the patients by age and sex.

Age Groups	Sex				Both	
	Male		Female			
	No	%	No	%	No	%
<20 year	5	83.3	1	16.7	6	11.3
20-30 year	19	51.4	18	48.6	37	69.8
31-40 year	4	80	1	20	5	9.4
> 40 years	2	40	3	60	5	9.4
Total	30	56.6	23	43.4	53	100

Table 2: Distribution of patient chief complains by age and sex.

Age and Sex distribution		Chief complain							
		Clicking		Pain		Other		Total	
		No.	%	No.	%	No.	%	No.	%
Age Groups	*<20 year*	1	16.7	1	16.7	4	66.7	6	11.3
	20-30 year	14	37.8	16	43.2	7	18.9	37	69.8
	31-40 year	2	40	2	40	1	20	5	9.4
	> 40 years	1	20	2	40	2	40	5	9.4
Sex	*Male*	9	30	12	40	9	30	30	56.6
	Female	9	39.1	9	39.1	5	21.7	23	43.4
Total		18	34	21	39.6	14	26.4	53	100

Table 3: Etiology reported for TMJ problems distribution by sex.

Etiology		Male		Female		Both	
		No.	%	No.	%	No.	%
Emotional stress	*Yes*	16	53.3	13	56.5	29	54.7
	No	14	46.7	10	43.5	24	45.3
Trauma to Head and Neck	*Yes*	2	6.7	3	13	5	9.4
	No	28	93.3	20	87	48	90.6
Trauma by dental work	*Yes*	4	13.3	3	13	7	13.2
	No	26	86.7	20	87	46	86.8

Table 4: Reported effects of TMJ problems on ears and other functional activities by sex.

Symptom		Male		Female		Both	
		No.	%	No.	%	No.	%
Affect functional activities	*Yes*	13	43.3	4	17.4	17	32.1
	No	17	56.7	19	82.6	36	67.9
Ear symptoms	*Yes*	14	46.7	3	13.0	17	32.1
	No	16	53.3	20	87.0	36	67.9

this gender difference in presentations of TMD, explanations given were related to by psychosocial, hormonal, behavioral, and constitutional factors[14,15].

The present investigation showed that younger patients were seen than older people, and this is in agreement with other studies[16,17]. Different studies report contradicting results regarding the higher prevalence trend of the disease regarding the age of the patients[4,18] and this may be due to the different diagnostic criteria used and the differences in clinical examination[14]. One explanation is that "although older subjects more frequently exhibit objective signs (joint sounds) of TMD, they rarely suffer from pain, while in contrast, younger subjects rarely exhibit objective TMD signs but more frequently suffer from subjective signs (muscular pain on palpation) and facial pain"[4].

This study demonstrated that feeling of pain was the most common symptom among the patients investigated and the same result was observed in some previous studies[13,16]. Clicking was the second most common sign and/or symptom, and this was in agreement with the result reported by Ryalat et.al (2009)[16]. While, some other studies demonstrated clicking to be the most common symptom[19,20] and this has been explained as younger ages may find it easier to express the joint pain as an earache. This is further confirmed when it was stated that 50% of TMD patients were reviewed by otolaryngologists[21].

Emotional stress was the most common reported cause of TMJ problems. TMJ problems have many causes, and the exact etiology may be unknown, but studies indicate a great link between psychological and emotional factors and TMJ problems[16,22]. Stress may increase pain perception and causes forceful mastication leading to more pain[23], hence causing or exacerbating TMJ problems.

Trauma to the mandibular region have been reported by some patients as the cause of their TMJ problem and this is in agreement with conclusions from other studies that related trauma to the head and neck region with TMD symptoms mainly as joint pain, limitation of mouth opening and masticatory muscle tenderness[9,16]. The traumatic effect of the force can be absorbed by surrounding muscular articular and extraarticular ligaments, the articular disc and the teeth[24]. Repeated external trauma to the mandible can lead to inflammatory responses in the masticatory muscles, laxity of the ligaments, and TMJ internal derangements[25]. Chronic microtraumas to the TMJ from chronic overloads and parafunctional habits, such as; bruxism and clenching, can result in synovitis, capsulitis, tendinitis, reducing and non-reducing disc displacements, osteoarthritis, subluxation and condylar dislocation as well as periodontal disorders and luxation of the teeth[26].

About one-third of the patients had ear symptoms, some studies reported ear symptoms as the most common cause[16,27], and this may be due to radiation of the pain to this area and patients may confuse ear problems and TMD symptoms, finding it easier to express the joint pain as an earache[16].

TMJ problems were reported by about one-third of the patients to affect their functional activities indicating the importance of this situation and the effect of TMJ diseases on some aspects of the quality of life of a patient as feeling of pain, interference with sleep and speaking. Barros et al. (2009)[28] stated that orofacial pain had a great impact on the quality of life of individuals with TMD and in another study in comparison with a "pain free" population, it was clearly indicated that orofacial pain and associated symptoms negatively affected the quality of life of TMD patients[29] and because of these effects of TMD on such patients, it's important that clinicians be able to guide patients to reputable sources of information that will enhance patient comprehension and better treatment outcomes[30].

Conclusions:

A patient with TMD requires a special kind of attention due the multifactorial nature of the condition and the wide range of clinical manifestations that may be associated with the condition. Furthermore, the impact of the condition on the general health and the quality of life are clearly evident and should not be overlooked by any clinician who encounters such patients.

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