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ANALYSIS OF LEVEL OF ANXIETY AND DEPRESSION IN TEMPOROMANDIBULAR JOINT DISORDER PATIENTS

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Abstract:
Introduction: *Temporomandibular disorders (TMDs) are now recognized as a group of biopsychosocial illnesses characterized by chronic painful conditions and dysfunctions in the muscles of mastication and temporomandibular joint (TMJ).* ***Aims and objectives:*** *The basic aim of the study is to find and analyze the level of anxiety and depression in temporomandibular joint disorder patients.* ***Material and methods:*** *This study was conducted at Punjab Dental hospital, Lahore during October 2018 to Nov 2018. The samples were selected by the non-probabilistic method of sampling. The total sample size was 100, 50 each for the control group and the study group. The samples included male and female patients in the age group of 20-40 years. The selected participants were divided into two groups. One was control group and one was those who suffered from TMD.* ***Results:*** *There are two groups, one is control and other is diseased group. The age range is 20 to 40 years. Within group 1 subjects, there was no statistically significant difference between males and females for the different stress scores. The control group also did not show any significant difference between male and female gender. Analysis of the results of group 1 and group 2 reveal that the majority of the subjects (both male and female) in group 2 had normal anxiety levels when compared to group 1 subjects.* ***Conclusion:*** *It is concluded that TMD patients experienced different Level of depression from no depression to extreme depression. Moderate, severe and extreme depressions were remarkable among TMD patients.*

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INTRODUCTION:

Temporomandibular disorders (TMDs) are now recognized as a group of biopsychosocial illnesses characterized by chronic painful conditions and dysfunctions in the muscles of mastication and temporomandibular joint (TMJ). The etiopathogenesis of TMD is complex with many risk factors including trauma to the TMJ area, anatomical factors, psychosocial profile, and sensitization of pain carrying neural pathways playing a role in causation of TMD [1].

The "Temporomandibular Disorders" (TMD) is a collective term used to describe a group of musculoskeletal conditions occurring in the temporomandibular region. These conditions are characterized by pain in the muscles of mastication, the Temporomandibular joint, or both, have an estimated prevalence in the adult population of around 10% [2]. Recent literature suggests that TMD is a multifactorial problem with structural (occlusion), functional (bruxism) and psychological (anxiety, tension) factors, as well as external trauma and arthritic deterioration as interrelated causes. Several reports have found a positive relationship between psychological distress and TMD [3]. Symptoms of depression and anxiety have also been considered as risk factors for TMD. Indeed, patients with chronic TMD show greater psychological maladjustment when compared to healthy controls. In chronic pain patients, anxiety and depression may deteriorate a patient's capacity to adapt and to develop coping skills that are vital for patients to manage their pain conditions and their lives [4].

Temporomandibular disorder (TMD) is a collective term for a heterogeneous array of psychosocial and physiological disorders associated with the temporomandibular joint (TMJ) and related musculature. TMD is the most common cause of non-infective and non-dental pain in the orofacial region. The etiology of TMD is regarded as multifactorial but the relative importance of the individual factors is still unclear [5]. The subgroups of this entity are muscular pathology (myofascial pain) joint pathology, for example internal disc derangement and osteoarthrosis, which are not always painful. Due to the ramifications of the masticatory system, TMD symptoms may be caused by different physiological and/or psychosocial factors such as malocclusion and occlusal interferences, alterations in the masticatory muscles, direct trauma to the jaw or TMJ, microtrauma due to parafunctional habits, or variations resulting from stress. The prevalence of TMD symptoms among the general population is around 40%. Furthermore, physical and emotional stress, along with altered adrenergic receptor-mediated responses due to gene polymorphisms can increase the chances of developing TMD [6].

Aims and objectives

The basic aim of the study is to find and analyze the level of anxiety and depression in temporomandibular joint disorder patients.

MATERIAL AND METHODS:

This study was conducted at Punjab Dental hospital, Lahore during October 2018 to Nov 2018. The samples were selected by the non-probabilistic method of sampling. The total sample size was 100, 50 each for the control group and the study group. The samples included male and female patients in the age group of 20-40 years. The selected participants were divided into two groups. One was control group and one was those who suffered from TMD.

Inclusion criteria

- Diagnosis of muscle and/or joint pain, consistent with Research diagnostic criteria/temporomandibular joint disorders (RDC/TMD).

Data collection

Each subject in group 1 and group 2 completed the hospital anxiety depression scale (HADS) questionnaire. The level of anxiety was rated using the HADS, which consisted of seven items for anxiety. The 7 items for depression in HADS were not considered in this study.

Statistical analysis

Student's t-test was performed to evaluate the differences in roughness between groups. Two-way ANOVA was performed to study the contributions. All the data was recorded on a pro forma and analyzed using SPSS-12.

RESULTS:

There are two groups, one is control and other is diseased group. The age range is 20 to 40 years. Within group 1 subjects, there was no statistically significant difference between males and females for the different stress scores. The control group also did not show any significant difference between male and female gender. Analysis of the results of group 1 and group 2 reveal that the majority of the subjects (both male and female) in group 2 had normal anxiety levels when compared to group 1 subjects. Subjects with borderline abnormal anxiety (scores of 8–10) and abnormal anxiety (scores of 11–21) levels were

more in group 1 in comparison with group 2 subjects.

Table 1: Anxiety score in subjects with TMD

Gender	**Anxiety depression score**			**Total**
	0 to 7	8 to 10	11 to 21	
Male	71 (45.5%)	78 (43.8%)	19 (10.6%)	100%
Female	29 (40.2%)	37 (48%)	9 (11.6%)	100%
Total	43.9%	45%	28%	100%

Table 2: Comparison of anxiety scores in subjects with TMD and control subjects.

Anxiety scores						
	Male			Female		
	0-7	8-10	11-21	0-7	8-10	11-21
Group 1	24	78	19	31	37	9
Group 2	26	30	1	84	18	1

P<0.001.

Significant difference for value in Fischer's exact "" test.

Group 1: subjects with temporomandibular disorders. Group 2: control subjects.

DISCUSSION:

Importance of the psychological factors for development of the TMD grows every day and is potentiated by the inability of proving any other valid etiological factors. According to Green unresolved psychological issues, such as depression and anxiety, can cause tension which inevitably leads to bruxism and para functions, which in turn cause TMD [6]. Psychological factors as etiological factors in development of the TMD cannot be ignored, since they play a great role in many painful conditions in the organism, including the TMD. Kinney et al., in their research noted that the psychological disorders are the key factors in the development of TMD. The most recent investigations on TMD focus on the relationship between the physical and psychological factors [7]. A number of published papers proved the relationship between the TMD and anxiety, depression and stress, but they failed to reveal the cause of this relationship. Depression is 'a common mental disorder that presents with depressed mood, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy, and poor concentration', and has recently been acknowledged as a major contributor to the global burden of disease [8]. In this study the mean age of the whole sample was 37.8 years, whereas according to Ranjani Shetty et al. prevalence of depression in patients with chronic pain is usually higher in the elderly than in younger individuals. Moreover, women have more symptoms, or a more severe type of depression, than men. Women undergo premenstrual and postmenstrual endocrine changes and compared to men have high levels of mono amino-oxidase (the enzyme needed to degrade neurotransmitters considered important for mood) [9].

Being a multifactorial disease affecting the stomatognathic system, TMD is influenced by many factors which includes elevated anxiety levels, symptoms of depression and somatization, and psychological stress. These biopsychosocial factors may be involved in predisposition as well as progression of TMD [10].

CONCLUSION:

It is concluded that TMD patients experienced different Level of depression from no depression to extreme depression. Moderate, severe and extreme depressions were remarkable among TMD patients. The existence of anxiety and depression should be considered in addition to musculoskeletal pathologies during the treatment plan of patients with TMJ who have these risk factors.

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