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Chewing Ability, Mood and Sleep are Negatively Influenced by Chronic TMJ Pain: Preliminary Results

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Abstract: Temporomandibular Joint pain may be characterized as a unilateral or bilateral pain in the joint and its associated craniofacial muscular system. Chronic pain in general is negatively associated to quality of life. Therefore, it was our clinical interest to investigate the role of chronic TMJ pain on various important life activities. The Brief Pain Inventory has been used for the evaluation of these factors of life quality. The findings showed that all the variables affected in negative terms by chronic pain. Concluding the importance of early diagnosis should be emphasized considering the consequence of the chronic illness.

Key words: Muscular system, chronic pain, TMJ pain, chewing ability, mood, sleep, negatively

INTRODUCTION

Temporomandibular Joint pain may be characterized as a unilateral or bilateral pain in the joint and its associated musculature of the facial skeleton (Harris *et al*., 1993). This may be more inclusive by using the definition of the pain which in general described by IASP (1979) as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage".

The questionnaires used in human research are useful medical tools in assessing the normality or abnormality of the condition (Madland *et al*., 2000). This way of assessment may be found essential in cases where the assessment of the psychological component of the complaint, such as the chronic temporomandibular joint pain, is broadly based on history taking.

Chronic pain is negatively associated to quality of life (John *et al*., 2007). Therefore, it was our clinical interest to investigate the role of chronic TMJ pain on various important activities.

MATERIALS AND METHODS

This research protocol achieved ethics approval for clinical research in humans in accordance to the Helsinki's declaration and its amendments. An information sheet and written consent form was included for the participants.

The inclusion criteria were pain of the TMJ and associated musculature of more than three months of existence. The exclusion criteria were pregnancy, osseocartilagenous diseases or being outside the age range of 16-55 years old.

The patients included in the study (n = 42) were examined clinically, taking one panoramic tomography for evaluation of the condylar shape and structure and using other investigations such as specific blood monitoring. The patient reported questionnaire used for the evaluation of the quality of life in chronic TMJ pain disorders was the BPI (Brief Pain Inventory) incorporating a 0-10 scale of severity.

The statistical software used was SPSS 13. Descriptive statistics and correlations between the variables were performed.

RESULTS

Our data revealed that chronic TMJ pain is more frequent in women (n = 29) with a ratio of female to male approximately 3:1. The variables measured were chewing ability, general activities, mood, walking, work, relationships, sleep and entertainment. In general all this important variables, account for the well being of the humans in the routine life were negatively affected in various degree (Table 1).

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Table 1: Important variables, account for the well being of the humans in the routine life were negatively affected in various degree

	Percentage							
Scale	Mastication	General activities	Mood	Walking	Work	Relationships	Sleep	Entertainment
0	-	21.4	14.3	57.1	14.3	14.3	-	7.1
1	14.3	7.1	14.3	7.1	14.3	7.1	7.1	14.3
2	7.1	-	-	14.3	7.1	7.1	14.3	14.3
3	-	14.3	-	-	-	7.1	7.1	7.1
4	7.1	28.6	7.1	14.3	35.7	35.7	7.1	14.3
5	14.3	7.1	21.4	-	21.4	-	7.1	7.1
6	7.1	7.1	14.3	-	7.1	7.1	14.3	14.3
7	-	7.1	14.3	-	-	7.1	7.1	-
8	28.6	7.1	7.1	7.1	-	-	7.1	14.3
9	14.3	-	-	-	-	14.3	21.4	7.1
10	7.1	-	7.1	-	-	-	7.1	-
Total (n = 42)	100	100	100	100	100	100	100	100

DISCUSSION

In our study, the prevalence of chronic TMJ pain in women was compatible with other research findings. There is no evidenced based explanation but the most important theories supporting this finding indicate the hormonal factor as the most reliable. The estrogens were found to disrupt the normal function of the TMJ (Landi *et al*., 2004).

The chewing ability, general activities, mood, walk, work, relationships, sleep and entertainment are affected in various degrees. Mostly influenced in negative terms were the chewing ability, mood and sleep. Desire to walk is not altered whereas the scores in the rest factors were equally distributed in the severity scale of the questionnaire.

Brief pain inventory is found to be a useful psychometric tool of assessing the previous mentioned factors of the routine life. Informed reassurance, various dental and physiotherapeutic approaches are primary key points in the clinician's armamentarium.

According to this study, in the management of chronic TMJ pain we should consider the significance of bio psychosocial model of pain. In the light of the existing evidence antidepressants may have a value not only in the management of chronic pain and depression but also in the induction of sleep due to their sedative effect (Mayers and Baldwin, 2005; Kafas *et al*., 2007). Therefore, sleep and mood may be improved in log term use of such a formula.

Chewing ability is influenced by pain. Therefore, our aim should be the proper management of pain in the ways described above in order to achieve better masticatory function. Our suggestion was compatible to the psychosocial hypothesis which seemed to be beneficial when dealing with such a multifactorial problem. Therefore, a multidisciplinary approach which includes dentists, psychologists, psychiatrists and physiotherapists should be formulated in solving the crux of matter.

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