

PSYCHOLOGICAL AND PSYCHIATRIC FACTORS OF TEMPOROMANDIBULAR DISORDERS

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Summary

Temporomandibular disorders (TMD) is an umbrella term covering a series of pathologic conditions which can have similar signs and symptoms and which lead to an imbalance in the normal functioning of stomatognathic system. Temporomandibular disorders are defined as a group of orofacial disorders with pain in the preauricular area, jaw joints (TMJ) or masticating muscles with limitations in range and deviations of lower jaw's movement as well as TMJ sounds during mastication. When the pathophysiologic factor is known, the pain is conventionally classified as "specific" and when it is unknown it is called "nonspecific", psychogenic, idiopathic, conversive or euphemistic atypical pain. Nonspecific pain of the TMD is very often a symptom of a psychiatric disorder, for example depression with somatic symptoms, hypochondria, psychosis or is classified in the group of somatoform psychiatric disorders according to contemporary classification systems, e.g. the American Psychiatric Association's DSM-IV (7) and the International Classification of Diseases (ICD-10).

TMD affects 12% of overall population. Psychological-psychiatric problems prevail among patients with TMD, anxious-depressive disorder is found in 50%, while depression in 32.1% of patients. Patients with psychiatric problems are 4.5 times more prone to TMD than individuals without psychiatric problems and vice versa.

TMD is connected with numerous etiologic factors, which renders early and precise diagnosis as well as efficient therapy more difficult. Five main factors are usually listed as connected to TMD: trauma, occlusion, habits (parafunctional activities, such as chewing a piece of gum, chewing on one side, teeth clenching, bruxism), deep pain stimulus, psychological problems connected with emotional stress, and psychiatric disorders. Psychological and psychiatric factors of TMD are the focus of this paper.

Treating nonspecific, psychogenic pain disorders is not possible without a holistic, integrative, interdisciplinary team approach of psychiatrists, psychologists, physiologists, neurologists and sometimes even neurosurgeons. Cognitive-behavioral psychotherapy

is prevalent as well as techniques of alleviating anxiety and stress (autogenic training), physiologic therapy, EMG biofeedback methods and psychopharmacotherapy.

Key words: temporomandibular disorders; pain disorder; nonspecific pain; specific pain; psychotherapy; psychopharmacotherapy.

INTRODUCTION

This paper is focused on psychological and psychiatric factors of TMD which is described as a prototype of idiopathic pain syndrome characterized by episodic, masticatory muscle and/or joint pain [1]. Increased somatization, reaction to stress, anxiety, depressiveness and connection with chronic pain syndrome are thought to exist in other body parts in patients with TMD [2, 3].

Psychosomatic medicine studies the connection of psychological conditions and psychiatric disorders, psychosocial stress, family and occupational factors and somatic disorders with pain syndrome. Somatoform pain syndrome is a separate psychiatric entity caused by psychological factors. On the other side, somatic disease with pain syndrome can cause anxiety, depressiveness, social phobia and isolation. However, every pain including pain within TMD has a more or less expressed psychological component. Integrative psychiatry provides a necessary holistic, interdisciplinary approach i.e. cooperation of psychiatrists' teams and teams of somatic medicine in simultaneous diagnostics and treatment of pain disorder [4].

DEFINITION AND CLASSIFICATION

Even Aristotle stressed the mental dimension of pain saying that "the pain is the passion of the soul". Pain is an unpleasant subjective experience difficult to explain. According to the International Association for the Study of Pain (IASP) and the World Health Organization (WHO) "pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage". There is also a very simple and practical definition according to which "chronic pain lasts longer than causal and expected time necessary for treating the affected tissue" [5].

Temporomandibular disorder (TMD) is an umbrella term covering a series of pathologic conditions which can have similar signs and symptoms and which lead to an imbalance in the normal functioning of stomatognathic system. Temporomandibular disorders are defined as a group of orofacial disorders with pain in the preauricular area, jaw joints (TMJ) or masticating muscles with limitations

in range and deviations of lower jaw's movement as well as TMJ sounds during mastication [2, 3]. TMD is described as a prototype of idiopathic pain syndrome characterized by episodic, masticatory muscle and/or joint pain [1]. Research points to increased somatization, reaction to stress, anxiety and depressiveness in patients with TMD as well as connection with chronic pain syndromes in other parts of the body [1-3].

A leading symptom of TMD is a pain which, generally speaking, limits significantly working abilities (especially chronic pain) and the life quality of patients and their families. Chronic pain is causally associated with comorbid psychiatric disorders, such as fear of physical illness, constant worry, anxious disorders, depression, reaction to stress and posttraumatic stress disorder [6]. Every pain especially chronic pain has more or less expressed psychological characteristics.

Pain is conventionally classified as "specific" and "nonspecific". Specific TMD pain is defined as a symptom caused by a known, pathophysiological mechanism. Nonspecific pain is defined as a symptom without a known specific pathophysiological cause and the literature usually classifies it according to the duration of symptoms; it is acute if it lasts less than 6 weeks, subacute if it lasts from 6 weeks to 3 months and chronic when it lasts longer than 3 months. Generally speaking, DSM-IV (*Diagnostic and Statistical Manual of Mental Disorders, 4th ed. 2000*) divides chronic pain syndromes in acute if they last less than 6 months and chronic if they are last 6 months or longer [7]. ICD-10 (*International Classification of diseases and health related problems, 10th revision 1992, Chapter V: Mental and Behavioral Disorders*) defines only a persisting, distress and disabling pain that lasts at least 6 months continuously during most of the day while an acute form is not foreseen [6].

Psychogenic, idiopathic or euphemistic, atypical pain is entirely caused by psychological factors and they belong to neurotic-persisting somatoform pain disorders. Today the diagnosis of chronic persisting pain syndrome is made according to ICD-10 and DSM-IV classifications which state the signs and symptoms necessary to set a diagnosis. One of them is the existence of persisting and distress pain (at least 6 months continuously during most of the day) in a part of the body, which cannot be adequately explained by reports of physiological processes or somatic disorder, and to whom the entire patient's attention is directed [6]. While the criteria for chronic pain syndrome in DSM-IV encompass the pain which is so strong that it is in the center of clinical attention and it causes clinically significant mental pain (distress) and functioning disorder in important parts of the life such as family, job and society with a proved significant role of psychological factors in occurrence, severity, impairment and support of pain

which is not caused intentionally or pretended, such as factitious disorder and simulation [7-9].

Psychogenic, somatoform, nonspecific pain is connected to psychological factors which have a major role in the occurrence, severity, impairment and support. It is a preoccupation with pain in any part of the body, often in TMJ, without an influence of a somatic disease. Somatic disorder, even if it exists, has no significant influence on such kind of pain. It is the persisting somatoform pain disorder F45.4. The prevailing disease is a persisting, strong, depressive and anxious (distressed) pain which cannot be entirely explained by physiological or somatic disorders and stress caused by emotional conflict or psychosocial problems is considered to be the main causal factor [6]. Such patients usually require great support and attention of the medical personnel and doctors. The pain sometimes occurs as a symptom of hypochondria, depression or psychotic disorder and cannot be classified as a somatoform pain syndrome.

Psychosomatic pain is not directly mentally caused, however stress and psychological factors have a significant role in its occurrence, severity, impairment, support and chronification [7]. Psychosomatic pain is connected with psychological and somatic factors which are in a changing interrelation, jointly responsible for the occurrence, severity, impairment and support of the disorder. Pain caused by known psychosomatic mechanisms, such as muscle tension, if considered to be a leading psychological cause, should be classified as F54 (psychological factor or behavior factor joint with somatic disorder or a disease classified elsewhere) and as an additional code of that disorder classified in chapter 2 of ICD-10 (e.g. pain in the back is classified as M54.9). This category should be used when the influence of psychological factor and behavior factor are considered significant for the occurrence and course of somatic disorder classified in chapter 2 of ICD-10, e.g. pain within TMD F54 and K07.6, pain in the back F54 and M54.9, migraine F54 and G43, tension headache F54 and G44 (G44.2 is excluded), etc.

These are mild and long-lasting mental disorders such as worry, emotional conflict and isolation which cannot be classified in any of the categories of mental disorders or mood disorders in ICD-10 [6].

There are studies that compare the number of pain symptoms with the probability and severity of symptoms of somatoform, depressive and anxious disorders. Moderately severe and severe depression was found in 25 to 50% of all patients with pain disorder, and dystimia and symptoms of depression in 60 to 100% of patients. Some experts think that chronic pain disorder has always been a form of depressive disorder suggesting that it is a masked or somatic form of depression [7].

Chronic pain with clear somatic etiological factors causes secondary psychiatric disorders such as anxiety, depression, social phobia, isolation and suffering for loss of concentration, self-confidence and working ability. In TMD pain occurs due to muscle disorder, herniated disk, arthralgia, arthritis, or arthrosis. Patients diagnosed with myofascial pain and arthralgia showed much greater levels of depression and somatization in comparison to patients diagnosed with herniated disk [2, 10, 11].

Unlike nonspecific, psychogenic and psychosomatic pain, specific pain is not classified in the chapter of psychiatric disorders. The most common anatomic areas of pain are, for example, skin, neck, thigh (sciatica), pelvis, head(ache), face, breast, joint, bone, abdomen, chest, kidneys, ear, eyes, throat, teeth and urinary tract [12-16].

EPIDEMIOLOGY

Pain is a major public health and socioeconomic issue in Western countries and probably one of the most frequent reasons for asking for medical help. The prevalence of chronic pain syndrome in population is 15 to 22% [1, 4, 17]. Most people experience one or more pain disorders during their life. Pain disorder is diagnosed twice more frequently in women than in men. Differences among races are not described. Pain is connected with the high price of health care (direct and indirect), sick leave, work inability and disability. Pain has significant consequences for patients as well as their families, working organization and the society [4].

TMD is described as a prototype of idiopathic pain syndrome. Patients with TMD show increased somatization, anxiety, and depressiveness, reaction to stress, and connection with chronic pain syndrome in other body parts [2,3]. TMD affects 12% of the population [1,3,18]. Epidemiologic studies have shown that psychological and psychiatric problems prevail in patients with TMD, anxious-depressive disorder is found in 50% while depression in 32.1% of patients with TMD. Patients with psychiatric problems are 4.5 times more prone to TMD than individuals without psychiatric problems and vice versa [1].

Research showed that 19.5% of patients with TMD had increased results of depression, while 27.3% had certain levels of nonspecific somatic symptoms. Most patients had a good psychosocial condition (67.8%) while only 21.4% showed moderate to severe limitation of psychosocial functioning. Patients diagnosed with myofascial pain and arthralgia had significantly lower levels of depression and nonspecific somatization symptoms in comparison with patients diagnosed with herniated disk [2].

The threshold of pain of masseter and forearm and sleeping disorders has been studied too: 75% of subjects had criteria for bruxism during sleep, while only 17% had criteria for active bruxism in sleep. Two or more disorders were diagnosed in 43% of patients, insomnia (36%) and apnea in sleep (28.4%) showed the greatest frequency. Primary insomnia (26%) encompassed the highest categories of insomnia [22-25].

Primary insomnia is significantly connected to the decrease of mechanical and thermal pain threshold in examined places. On the contrary, the index of respiratory disorder was significantly connected to the increase of the threshold of mechanic pain stimulus on the forearm. As a conclusion, the association of primary insomnia and hyperalgesia on places outside the orofacial area points to the association of insomnia with central sensitivity to pain and a possible etiologic role in idiopathic pain disorders. The association between breathing disorder in sleep and hypoalgesia requires further studies that would enable a new insight in complex interrelations between processes which regulate sleeping and pain. Those patients with TMD who report sleeping disorders due to high percentages of primary insomnia and apnea in sleep should be referred to polysomnographic evaluation [25].

It has been noticed that patients reporting chronic pain had emotional difficulties and they were psychosocially and biochemically sensitive; 43% of them had no psychiatric disorders, 35% had depression, 22% had different neurotic disorders and a small number of personality disorders with somatization and psychoses [16].

ETIOLOGY

TMD is connected with numerous etiologic factors, which makes an early and precise diagnostics and efficient therapy more difficult. Some etiologic factors increase the risk of TMD occurrence and are called predisposing, others, called precipitating, can cause the beginning of TMD, while the third, perpetuating factors, make treatment and healing difficult or increase TMD progression [2-4,26-28]. Five major factors connected to TMD are usually listed as follows: trauma, occlusion, habits (parafunctional activities, bad habits such as chewing a piece of chewing gum, chewing on one side, teeth clenching, bruxism), deep pain stimulus, psychological problems connected with emotional stress and psychiatric disorders [3,4,13-16,29].

This paper focuses on psychological and psychiatric factors of TMD. As it is the case in other idiopathic pain disorders, e.g. fibromyalgia, irritable colon

syndrome, headache, pain in the back, etc., patients report more frequently stressful events, neuroendocrine disorder and chronic insomnia [2,3,30,31]. The beginning and development of nonspecific, pathogenic pain in the area of TMJ in mature life is connected with distress, anxiety, depression and sleep disorder. The association of primary insomnia and hyperalgesia in areas outside the orofacial area suggests a central sensitivity to pain which can have an etiological role in idiopathic pain disorders [16].

Psychosomatic pain has, besides a psychogenic, a somatic etiologic factor as well. When the somatic causal factor of TMD cannot be proved despite persistent stomatologic, physiologic and neurologic examinations, pain is considered to be of psychogenic nature. For example, it is difficult to explain TMD with tension of masticatory muscles without any pathophysiologic evidence. An equally enigmatic tension headache was proved not to be connected with muscle tension [32].

Little is known about risk factors that are responsible for the translation from acute into chronic form of pain. Factors of nonspecific pain within TMD are usually classified as psychosocial, occupational and personal. Psychosocial factors such as stress, anxiety, mood disorder, alcohol and drug abuse, low cognitive functioning, style of life can encourage an acute pain episode while mental suffering due to anxiety, adjustment disorder, depressive or irritable mood, fear of somatic illness, and persistent somatizations can incite a chronic form of pain [16].

Psychosocial factors

Psychosocial factors significant for the development of TMD chronic pain disorder refer to unstable and inadequate parental environment, poor adjustment to school or job, marital or material difficulties, substance and drug abuse or alcohol or illegal drug addiction, chronic illnesses in families and loss of a close person [2,3,16,30]. A person of that kind of psychosocial conditions usually gives the impression that he/she is sensitive to stress and is prone to chronic pain syndrome in different parts of the body [5].

Interpersonal factors

Unbearable TMD pain occurs as a means of manipulation and goal achievement in interpersonal relations, e.g. so that loyalty of a family member could be achieved or that impaired marital relationships could be improved. Secondary gain is very important for the patient so painful behaviors are stronger when they are rewarded and they are lower and prevented when they are denied or punished [1].

Psychodynamic factors

A patient that experiences TMD pain without an equivalent somatic cause symbolically lives an intrapsychiatric conflict through a physical symptom. A person can subconsciously consider mental pain as a personal weakness, psychiatric stigma and transfer it in physiologic symptom such as pain in any part of the body [4].

Biological factors

How can the nature and link of painful peripheral experience in the area of TMJ be explained in relation to the central nervous system and psychological disorder? Cerebral cortex can inhibit the activity of afferent sensory pathways which bring painful stimuli. If central nociceptive neuron's stimulability is increased, the activity of afferent sensory paths is greater. Anxious and depressive patients have lowered levels of painful stimuli. Brain stem with monoamine cores has the most significant role in pain modulation; lowered monoamine activity (serotonin, noradrenalin, opioid peptide β -endorphin – "endogen morphine") decreases the possibility of modulating the activities of afferent sensory pathways and control of pain stimuli entrance from the peripheral part to the central nervous system (Gate control theory) [33].

Serotonin is probably the most important transmitter in descendent inhibitory pathways and a lowered activity of serotonergic system is considered responsible for painful symptoms in depressive or anxious patients. Theoretically speaking, the lowered activity of noradrenaline system, which plays a role in the development of depression, has also a role in the development of painful symptoms.

Endorphin, endogen opioid, has a major role in the modulation of pain in the central nervous system as well. Lack of endorphin is considered to be correlating with the increased entrance of painful sensory stimuli [33].

Hypothetically, emotionally, biochemically and physically sensitive individuals react to stress by releasing ACTH that antagonizes the analgesic effects of β -endorphin [33].

Biochemical basis of chronic pain is confirmed by its connection with depression and efficacy of tricyclic antidepressants in the treatment. However, alleviating pain with tricyclic antidepressants is as successful as in non-depressed, psychiatrically healthy persons. A precise way of antidepressants' activity is unknown but can be the result of an increased concentration of monoamines in midbrain whose role is to modulate the pain [34].

DIFFERENTIAL DIAGNOSTICS

It is hard to differentiate a somatic from pure psychogenic pain because they are mutually non-exclusive. However, there are different characteristics of physical and psychiatric pain. Physical pain fluctuates in severity and is sensitive to attention, compassion, cognition and external influences. Pain which does not change according to strength is not sensitive to stated factors; it is followed by dramatic complaining, substance abuse or addiction, depression or work inability and is probably psychogenic [35].

Psychogenic pain classified as a persisting somatoform pain disorder should be differentiated from the rest of somatoform disorders such as hypochondria, conversion and simulating pain [6,7].

Differential diagnosis is difficult since patient's chronic pain often brings compensation due to working inability or gain at court. Such patients most often do not simulate pain since it is a subconscious experience. Furthermore, back pain, neck pain, headache, chest or abdomen pain can be induced by psychosocial factors while in the basis there could be a somatic pathophysiologic mechanism significant for the development of pain. This is why it cannot be diagnosed as somatoform pain disorder [4,35].

COURSE AND PROGNOSIS

Pain, as well as TMJ pain disorder and surrounding muscle structures' pain, occurs in different ways. Most usually it starts suddenly and becomes stronger through several weeks or months and it becomes fluctuating or chronic. Depressive mood has the most significant effect on the patient's life, followed by exhaustion, decreased activity and libido, substance and alcohol abuse, addictive behavior and inability which is not in proportion with real tissue damage. Prognoses are various; chronic pain causes suffering and very often it completely disables the patient. Early treatment and prevention of chronic course improves the prognosis. When the psychosocial causal factors prevail, pain can decrease by treating and removing external stress factors. Patients with previous personality disorder of passive type who expect a court gain or receive material compensation, take substances or have a long anamnesis of TMJ pain have a bad prognosis [10,11,35].

TREATMENT

Treating nonspecific, psychogenic pain disorders of TMJ is not possible without a holistic, integrative, interdisciplinary team approach of psychiatrists,

psychologists, physiologists, neurologists and sometimes even neurosurgeons. Cognitive-behavioral psychotherapy is prevalent as well as techniques of alleviating anxiety and stress (autogenic training), physiologic therapy, EMG biofeedback methods and psychopharmacotherapy [34,36,37].

Primary psychiatric disorders with pain symptoms can be found more rarely in clinical practice than the psychosomatic disorders. Neurotic, stress-induced anxious and somatoform disorders, depressive and personality disorders, behavior or psychotic disorders belong to this group [39]. Chronic pain within TMD is a frequent conversive symptom of intrapsychiatric conflict and tension which occur in depressed and anxious patients. Patients suffering from borderline type of personality disorder with behavior disorder very often arrive with Von Minhauzen syndrome which is characterized by psychopathic behavior without intentional simulation in order for obvious gain to be obtained (except from medical and nursing care). They are also prone to consciously simulate pain symptoms and are encouraged by a gain, e.g. simulating TMD to obtain sick leave [40,41]. Psychotic disorders are very often manifested by delusional ideas about nonspecific disturbances and undefined diffusing pain. These disorders belong to the group of "monosymptomatic hypochondriac psychoses" [13].

Primary health care doctors, neurologists and physiologists are often faced with the task to diagnose a psychiatric disorder and explain to the patient the psychogenic etiology of chronic pain.

The treatment depends on the psychiatric disorder which lies in the basis of the pain. Since pain is connected most frequently with neurotic, stress-induced disorders such as anxiety and depression, besides cognitive-behavioral and interpersonal psychotherapy the pharmacological approach uses also anxyolitics and antidepressants. SSRIs are the first line of antidepressants. Treating delusional pain disorders is performed by conventional and atypical antipsychotics. Conventional antipsychotic haloperidol shows great efficiency in the treatment of these disorders as well as second generation antipsychotics (clozapine, olanzapine, risperidon, quetiapin, aripiprazol etc.). Generally speaking, the therapy with antipsychotics starts with the lowest possible daily doses which are gradually increased during weeks.

Most patients experience alleviating symptoms during the first 4 to 6 weeks of therapy. Patients are usually unconfident when it comes to taking psychopharmas since they bring psychiatric stigma. This is why it is very important to inform the patient about possible side effects and prescribe a drug in small initial doses with gradual titrating so that the risk of side effects could be lowered [4,42].

Psychosomatic pain precipitates or exacerbates emotional stress while in the basis of the pathophysiological mechanism of pain lies an obvious somatic factor. Stress can incite various hormonal, vascular and muscular functional disorders which can cause painful symptoms. It is important to know that these disorders are not caused by stress but they are incited, worsened and supported by them [6, 7]. We should take into consideration the fact that sometimes mental and sometimes biological causal factors decide for exacerbation of pain.

Treating a patient with resistant chronic pain syndrome sometimes is made difficult because patients feel ashamed and do not want to talk about their psychological problems. Courses of techniques for managing stress, music or physical exercise can help such patients. If a specific psychosocial or working problem lies in the basis, psychiatric counseling could be useful as well as techniques of alleviating external stress such as autogenic training. Psychotherapeutic approach i.e. cognitive-behavioral therapy is possible only when the patient understands and can define the psychological problem that lies in the basis of his/her suffering [42]. Easier pain is treated more successfully by EMG biofeedback, thermal biofeedback and cognitive-behavioral technique. In the case of severe cases and when the somatic nature of the disease prevails, standard physical therapy, local blocking or analgesic therapy should be done [37]. When stress causes tension and a high level of anxiety in a patient the therapy with anxiolytics should be used. SSRIs, which are efficient and safe, could be used for the treatment of chronic anxiety and depression. Antidepressants are used four to six months or longer [41]. We should bear in mind, however, that it is very difficult to apply adequate doses of antidepressants in depressed patients and perform the therapy long enough in order to avoid sub-dosing which is therapeutically inefficient. Older patients can react positively to lower doses of antidepressants. When anxiety requires a psychiatric examination and treatment, the patient needs a careful and diplomatic explanation so that he/she could accept the referral to a psychiatrist as part of the therapeutic approach to the somatic component of his/her disease [16].

Secondary psychiatric disorders which occur as a consequence of chronic persisting and disabling pain are treated mostly by psychotherapeutic approach directed towards alleviating stress as well as by cognitive-behavioral therapy [34, 42]. Anxious and depressive disorders which occur in comorbidity with pain syndrome are treated according to indication and by anxiolytics and antidepressants.

CONCLUSIONS

Pain is a condition which occurs in interaction of psychogenic and somatic factors. TMD is described as a prototype of idiopathic pain syndrome charac-

terized by episodic, masticatory muscle and/or joint pain which affects 12% of the population and represents a major public health problem. Treatment is not possible without a holistic, team approach of psychiatrists, psychologists, physiologists, neurologists.

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Sažetak

Psihološki i psihijatrijski čimbenici temporomandibularnog poremećaja

Temporomandibularni poremećaj (TMP) skupni je naziv za niz patoloških stanja koja mogu imati slične znakove i simptome, a dovode do poremećaja normalne funkcije stomatognatog sustava. Temporomandibularni poremećaji definiraju se kao skupina orofacijalnih poremećaja s boli u preaurikularnom području, čeljusnim zglobovima (TMZ) ili žvačnim mišićima s ograničenjima u rasponu i devijacijama kretnji donje čeljusti te zvukovima TMZ-ova tijekom žvakanja. Kada je poznat patofiziološki uzročni čimbenik TMP-a s boli, konvencionalno se klasificira kao "specifičan", a kada patofiziološki uzročni čimbenik nije poznat, kao "nespecifičan", psihogen, idiopatski, konverzivan ili eufemistički atipičan. Nespecifična bol pri TMP-u često je simptom nekog psihijatrijskog poremećaja kao što je depresija sa somatskim simptomima, hipohondrija, psihoza ili se pak svrstava u skupinu somatiformnih psihijatrijskih poremećaja prema suvremenim klasifikacijskim sustavima kao što su Dijagnostički i statistički priručnik (DSM-IV) američkog psihijatrijskog društva i Međunarodna klasifikacija bolesti i srodnih zdravstvenih problema MKB-10.

TMP zahvaća 12% cjelokupne populacije. Psihološko-psihijatrijski problemi prevladavaju među bolesnicima s TMP-om, anksiozno-depresivni poremećaj pronađen je u 50%, a depresija u 32.1% bolesnika. Pacijenti sa psihijatrijskim problemima skloniji su 4.5 puta TMP-u nego osobe bez psihičkih problema i obrnuto.

TMP je povezan s brojnim etiološkim čimbenicima, što otežava ranu i preciznu dijagnostiku i učinkovitu terapiju. Obično se navodi pet glavnih čimbenika povezanih s TMP-om: trauma, okluzija, navike (parafunkcijske aktivnosti, kao što su žvakanje žvakaće gume, žvakanje na jednu stranu, stiskanje zubi, bruksizam), duboki bolni podražaj, psihološki problemi povezani s emocionalnim stresom i psihijatrijski poremećaji. U ovom radu pozornost je usmjerena na psihološke i psihijatrijske čimbenike TMP-a.

Liječenje nespecifičnih, psihogenih bolnih poremećaja TMZ-a nije moguće bez holističkog, integrativnog, interdisciplinarnog, timskog pristupa psihijatra, psihologa, fizijatra, neurologa, a ponekad i neurokirurga. Prevladava kognitivno-bihevioralna psihoterapija, tehnike ublažavanja anksioznosti i stresa (autogeni trening), fizikalna terapija, *EMG biofeedback* metode i psihofarmakoterapija.

Ključne riječi: temporomandibularni poremećaji; bolni poremećaj; nespecifična bol; specifična bol; psihoterapija; psihofarmakoterapija.

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