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Psychosomatic disorders affecting the oral cavity: A review article

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Abstract

Psychiatric disorders are considerably increasing in last few years and represent a major public health problem. Anxiety and Depression are one of the most prevalent psychiatric diseases. These diseases causes physical and pathological changes in the body, oral cavity not being an exception. Since oral mucosa is extremely reactive to emotional influences like stress, anxiety and depression; oral diseases may arise as a direct expression of emotions, or indirect result of psychological alterations ^[1].

The mouth is a window to body's health and oral health state can offer lot of clues about the overall health and sometimes the first sign of a disease shows up in mouth. So there is need to learn more about the intimate connection between oral and overall health. Thus this review highlights the significance of increasing psychological factors in society resulting in altered physiological responses causing orofacial region pathologies, struggles in handling such patients and challenging treatment plans with highly important role played by recognition of such patients with role of counseling and early referral in patients to psychiatrist ^[2].

Keywords: Psychosomatic disorders, atypical facial pain, oral lichen Planus, burning mouth syndrome

1. Introduction

A psychosomatic disorder involves both body and mind. These diseases have physical symptoms originating from mental or emotional causes. Most common ones are stress, anxiety and depression. A wide spectrum of psychiatric disorders affects oral and para oral structures which have a definite psychosomatic cause, but unfortunately they remain unrecognized because of the common and limited nature of their presenting features ^[3].

The term psychosomatic is derived from the Greek words psyche and soma. "Psyche" in earlier times meant "soul or mind" which now also implies "behaviour." "Soma" refers to "physical organism of the body." It has been known for centuries that psychological/emotional factors are related to many physical illnesses. Traditionally, we regard mind (psyche) and body (soma) to be separate, but where and how do they interact? As an answer, the basic concept in psychosomatic medicine was described clearly by Sigmund Freud, who used the term "conversion hysteria," which is nothing but change in expressive behavior, i.e. from an unresolved emotion to somatic symptom ^[4].

The term "Psychosomatic" was first used in 1818 by the German psychiatrist, Heinroth. Felix Deutsch in 1922 was probably the first author to introduce the term "psychosomatic medicine" ^[5].

The mouth represents an organ of the expression of certain 'instinctual' cravings and is charged with a high psychologic potential. Certain diseases which affect the oral mucosa may be the direct or indirect expression of emotions or conflicts.

2. Effect of Stress on Oral Mucosa

Stress is defined as a physical, mental or emotional response to events that causes bodily or mental tension. Many authors have proved stress in relation to hypertension, gastric ulcer and diabetes mellitus. Similarly research is going on in identifying and proving the role of stress as one of the etiological factor in few oral lesions such as Oral lichen planus, Aphthous ulcers, Burning mouth syndrome and myofascial pain Dysfunction syndrome. Freud postulated that not only do the oral stage of development determine important personality traits, but that problems at this stage lead to predisposition to certain depression in later life. Stress releases catecholamines from the autonomic nervous system activates the Serotonergic and Dopaminergic systems which increases serotonin turnover leading to release of Corticotrophin releasing factor (CRF), Glutamate and GABA ^[3].

3. Classification of Psychosomatic Disorders

3.1 According To International Classification of Diseases (Icd-10; Who-1993)

A. Psychosomatic disorders are broadly classified depending on whether or not there is tissue damage.

- “Psychological malfunction arising from mental factors:” It describes a variety of physical symptoms or types of psychological malfunctioning of mental origin, not involving tissue damage, and usually mediated through the autonomic nervous system (ANS). For example, respiratory disturbances, such as hyperventilation and psychogenic cough; cardiovascular disturbances, such as cardiac neurosis; and skin disorders such as pruritis.
- Mental disturbances or psychic factors of any type that might have played a major part in the etiology of certain physical conditions usually involving tissue damage. For example, psychogenic conditions, such as asthma, dermatitis, eczema, gastric ulcer, mucoscolitis, ulcerative colitis, and urticarial [6].

B. According To Zegarelli *et al.* (1978) [4]

- Psychoneurotic disorders
- Psychophysiologic disorders
- Personality disorder
- Psychotic disorder.

3.2 Classification of Psychosomatic Disorders Pertaining To Oral Cavity

A. According To Mccarthy and Shklar (L980) [7]

1. Oral psychosomatic disease

- Lichen planus
- Aphthous stomatitis
- Glossitis and stomatitis areatamigrans

2. Oral diseases in which psychologic factors may play some etiologic role

- Erythema multiforme
- Mucous membrane pemphigoid
- Chronic periodontal diseases

3. Oral infections in which emotional stress serves as a predisposing factor

- Recurrent herpes labialis
- Necrotizing gingivitis

4. Oral diseases induced by neurotic habits

- Leukoplakia
- Biting of oral mucosa (self-mutilation)
- Physical/mechanical irritation
- Dental/periodontal disease produced by bruxism

5. Neurotic oral symptoms

- Glossodynia (glossopyrosis)
- Dysgeusia
- Mucosal pain.

B. According To Bailoor And Nagesh (2001) [8]

1. Pain-related disorders

- Myofacial pain dysfunction syndrome
- Atypical facial pain

2. Disorders related to altered oral sensation

- Burning mouth syndrome

- Idiopathic xerostomia
- Idiopathic dysgeusia

3. Miscellaneous

- Oral lichen planus
- Recurrent aphthous ulcers
- Psoriasis
- Erythema multiforme
- Cancerophobia
- Acute necrotizing ulcerative gingivitis
- Anorexia nervosa
- Bruxism.

3.3 Revised Simple Working Type Classification Proposed For Psychosomatic Disorders Pertaining To Dental Practice by Shamim (2014) [9]

A. Pain related disorders

- Myofascial pain dysfunction syndrome (MPDS)
- Atypical facial pain
- Atypical odontogenic pain
- Phantom pain

B. Disorders related to altered oral sensation

- Burning mouth syndrome
- Idiopathic xerostomia
- Idiopathic dysgeusia
- Glossodynia
- Glossopyrosis

C. Disorders induced by neurotic habits

- Dental and periodontal diseases caused by bruxism
- Biting of oral mucosa (self-mutilation)

D. Autoimmune disorders

- Oral lichen planus
- Psoriasis
- Mucous membrane pemphigoid
- Erythema multiforme

E. Disorder caused by altered perception of dentofacial form and function

- Body dysmorphic disorder

F. Miscellaneous disorders

- Recurrent herpes labialis
- Necrotising ulcerative gingivostomatitis
- Chronic periodontal diseases
- Cancerophobia
- Delusional Halitosis.

3.4 Classification According To Dhimole A

One of the few simple working type classification includes the following [2]

A. Pain Related Disorders

- Myofascial pain dysfunction syndrome (MPDS)
- Atypical facial pain
- Atypical odontogenic pain
- Phantom pain II

B. Disorders Related to Altered Oral Sensation

- Burning mouth syndrome

- Idiopathic xerostomia
- Idiopathic dysgeusia
- Glossodynia
- Glossopyrosis

C. Disorders Induced by Neurotic Habits

- Dental and periodontal diseases caused by bruxism
- Biting of oral mucosa (self-mutilation)

D. Autoimmune Disorders

- Oral lichen planus
- Recurrent aphthous stomatitis
- Psoriasis
- Mucous membrane pemphigoid
- Erythema multiforme

E. Miscellaneous Disorders

- Recurrent herpes labialis
- Necrotising ulcerative gingivostomatitis
- Chronic periodontal diseases
- Cancerophobia

4. Common Oral Diseases in Which Psychological Factors Play a Role in Pathogenesis

4.1 Myofascial Pain Dysfunction Syndrome (MPDS)

Myofascial Pain Dysfunction Syndrome is a heterogeneous group of signs and symptoms that affect the jaw joint and/or the chewing musculature. Myofascial pain syndrome (MPS) is defined as pain that originates from myofascial trigger points in skeletal muscle. It is prevalent in regional musculoskeletal pain syndromes, either alone or in combination with other pain generators like Temporomandibular disorders (TMD). Currently a multifactorial theory on MPDS has received a great support among the scientific community. Myofascial Pain is the most common form of TMD, affecting principally women in reproductive age. MPDS (Myofascial Pain Dysfunction Syndrome) is the most common form of temporomandibular disorders. Previous studies have shown muscular involvement in 90% of cases. MPDS is the most common cause of oro-facial chronic pains. In fact, MPDS is a psychological disorder which involves the masticatory muscles and results in pain, limitation in jaw movement, joint noise, jaw deviation in closing and opening the mouth and sensitivity in touching one or more masticatory muscles or their tendons. The main acceptable factors include occlusion disorders and psychological problems^[10].

Treatment

A number of successful treatment outcomes have been reported, including occlusal splints, physiotherapy, muscle-relaxing appliances, and pharmacological interventions. Based on Wall & Melzack's Gate Control Theory, TENS has been used very commonly for pain relief in the last 30 years. The tricyclic antidepressants such as amitriptyline and nortriptyline and cognitive behavioral therapy are often generally helpful¹¹.

4.2 Atypical Facial Pain (AFP)

According to the International Association for the Study of Pain (IASP), chronic facial pain refers to symptoms which have been present for at least 6 months. 'Atypical' pain is a diagnosis of exclusion after other conditions have been considered and eliminated (i.e. it is idiopathic) and is

characterized by chronic, constant pain in the absence of any apparent cause in the face or brain. Many information sources suggest that all 'unexplained' facial pains are termed Atypical Facial Pain but this is not the case. Categories of idiopathic facial pain conditions include Neuropathic Pain due to sensory nerve damage, Chronic Regional Pain Syndrome (CRPS) from sympathetic nerve damage and Atypical Facial Pain^[2].

Treatment

The patients with chronic pain including facial pain need to be screened for depression. Pharmacological treatment with antidepressants, antiepileptic or other drugs can also be tried. Cognitive-behavioural therapy may be indicated. Patients with AFP may be helped by a technique termed 'retribution' which involves demonstrating an understanding of the complaints by taking a history of related physical, mood and social factors. It may help explain that depression/tiredness lowers the pain threshold and that muscle over activity and spasm (being 'uptight') causes pain^[12].

4.3 Atypical Odontalgia

Atypical odontogenic (AO) pain implies toothache of unknown origin. Exact etiology of this condition is unknown. It is considered to be deafferentation neuralgia (causalgia) arising when a dental extraction or pulp extirpation produces either an amputation neuroma or a central degenerative change in the trigeminal nucleus. Some consider AO as vascular/neurovascular in origin. Recently, psychogenic etiology was considered. In a study, 42% of AO patients experienced depression and were confused regarding "did the depression cause the pain or did the pain lead to depression." Another study supported the concept that at least some of the patients in this category had strong psychogenic component to their symptoms and that depressive, somatization, and conversion disorders have been described as major factors in some patients^[13].

Treatment

The tricyclic antidepressants such as amitriptyline and nortriptyline are often generally helpful.

4.4 Burning Mouth Syndrome

Burning Mouth Syndrome (BMS) is a painful, complex condition often described as a burning, scalding, or tingling feeling in the mouth that may occur every day for months or longer. Dry mouth or an altered taste in the mouth may accompany the pain.

BMS is most commonly found in adults over the age of 60. It is estimated to be about five times more frequent in women than in men.

Doctors and dentists don't have a specific test for BMS, which makes it hard to diagnose. No specific treatment works for everyone. However, a doctor can prescribe medications to help you manage the pain, dry mouth, or other symptoms^[14].

Treatment

Cognitive-behavioural therapy or a specialist referral may be indicated. 'Retribution' helps manage these patients. Topical application of capsaicin (0.025% cream) has been used. Topical application of 0.5 ml *Aloe vera* gel at 70%, 3 times a day combined with tongue protector is found to be effective. The topical application of clonazepam (by sucking a tablet of 1 mg), 3 times a day for 14 days found some success

in some. Gabapentin, an anticonvulsant drug, is advised 300-1,600 mg/day; 100 mg at bedtime.

4.5 Oral Lichen Planus

Oral lichen planus (OLP) is a mucocutaneous disease which can alter the skin, oral mucosa and other mucous membranes. It affects approximately one to two percent of the population, mainly women, and it occurs most frequently during the fifth and sixth decades of life. Several hypotheses have been made regarding its aetiology, including genetic, infective, psychogenic and autoimmune factors. Chaudhary has reported higher scores of anxiety, depression and stress in patients with OLP in comparison to healthy controls ^[15].

Treatment

A positive response to medium-potency corticosteroid treatment, such as acetate triamcinolone 0.1%, powerful fluorinated steroids as fluocinolone acetonide 0.05% and 0.1%, and more high-potency halogenated corticosteroids, like clobetasol propionate 0.05%, has been reported in most treated patients. Surgical excision, cryotherapy, CO₂ laser, and ND: YAG laser have all been used in the treatment of OLP. Photo chemotherapy is also used. Relaxation, meditation and hypnosis have positive impact on many cutaneous diseases and help to calm and rebalance the inflammatory response which can ameliorate inflammatory skin disorders ^[16].

4.6 Pemphigus

Psyche, immunity, and skin are mutually connected such that a pathogenic link between an intensive emotional stress and an autoimmune skin disorder can often be envisaged. Cases of pemphigus triggered by emotional stress are not exceedingly rare. It is very likely that the role of the psychological stress in triggering pemphigus is still underestimated ^[17].

4.7 Bruxism

Tooth grinding (TG) is an activity of major concern to dentists because of its consequences: tooth destruction, breakage of dental restoration or rehabilitation, exacerbation of temporomandibular disorders or induction of temporal tension headache and grinding sounds that may interfere with the sleep of family or life partners. Bruxers differs from healthy individuals in the presence of depression, increased levels of hostility and stress sensitivity ^[18].

Treatment

Occlusal interventions in the form of splints aim at achieving harmonious relationship between occluding surfaces. Antidepressant drugs may exert deviating effects on bruxism: either they exacerbate the condition (selective serotonin reuptake inhibitors, SSRI) or they are inert in their effects (amitriptyline). The tricyclic antidepressants such as amitriptyline and nortriptyline are often generally helpful ^[19].

4.8 Idiopathic Xerostomia

Xerostomia is defined as dry mouth resulting from reduced or absent salivary flow. Sreebny has defined xerostomia as "subjective feeling of oral dryness". Xerostomia is a common complaint among older adults and 30% of population aged 65 & more prevalent in postmenopausal women than men. Etiology is multifactorial. The sensation of dry mouth may be regarded as a subjectively felt somatic symptom. Although it is likely to have a biomedical background, the possibility of

psychosomatic nature cannot be excluded. Mason and Glen (1967) have stated that as the secretion of saliva is regulated by ANS and is subjected to reflex stimulation from physical & psychic causes, then xerostomia may result from 4 basic causes in which factor affecting salivary centre are primary cause which include: 1. Emotions, fear, excitement, stress 2. Depression 3. Organic diseases e.g. brain tremor, Parkinson's disease 4. Drugs. The relationship between stress and salivary flow has been known for some time. Secretion of saliva is regulated by autonomic nervous system (ANS) and is subject to reflex stimulation from physical and psychic cause. The psychologic and physiologic stress is associated with particular situations and shows reduced flow rates of saliva, decreased pH, increased protein and amylase and also can cause increase in oral volatile sulfur compounds and variation in total ion concentration ^[20].

Treatment

Salivary substitutes and lubricants with moistening properties are designed to provide prolonged mucosal wetting. Products include "artificial" saliva, rinses, gels, and sprays, which may contain carboxymethyl cellulose (CMC), a mucopolysaccharide, glycerate polymer gel base, or natural mucins, singly or in combination.

4.9 Recurrent Aphthous Stomatitis (RAS)

RAS is the most common type of ulcerative disease of the oral mucosa, affecting 20% of general population. Onset of RAS usually is during childhood, with a tendency for ulcers to diminish in frequency and intensity with age. There are 3 variants described-minor, major, herpetic form. Etiology is multifactorial- trauma, stress, hormonal, immunologic, drugs etc. In a study by Gallo *et al*, psychological stress was assessed through questionnaire and results showed RAS patients exhibited higher stress levels, than control group during their active episodes. Psychological stress is typically during situations such as exam period, dental treatment and periods of significant changes in life ^[21].

Treatment

Salivary substitutes and lubricants with moistening properties are designed to provide prolonged mucosal wetting. Products include "artificial" saliva, rinses, gels, and sprays, which may contain carboxymethyl cellulose (CMC), a mucopolysaccharide, glycerate polymer gel base, or natural mucins, singly or in combination. Pilocarpine increases salivary flow and affect subjective dryness as well. The selective serotonin reuptake inhibitors like sertraline are often generally helpful.

4.10 Chronic Biting Of the Oral Mucosa

It is a form of factitial/unintentional injury that is observed commonly on the buccal and labial mucosa and lateral surface of tongue. Habitual lip or cheek biting usually occurs as an unconscious psychogenic habit caused by a wide range of emotions. This mild form of self-mutilation may sometimes emerge as a response to oral stimuli or as an attempt to gain attention from family members or caretakers ^[22].

Treatment

Counseling, biofeedback, relaxation techniques and hypnosis or psychiatric treatment have been suggested along with the dental management of the effects of habit.

4.11 Dismorphophobia

Dismorphophobia is the belief in a cosmetic defect in a person of normal appearance. The complaint may range from mild unattractiveness to ugliness, and frequently the patient seeks treatment to correct the supposed deformity. Not surprisingly, the face and its components (the teeth, nose, mouth, ears, eyes, and chin) make up a large percentage of structures for which patients seek and undergo cosmetic surgery. These patients often have bizarre complaints regarding their profile or their smile. The disorder is in fact not a phobia at all but an obsession, or a delusion, and hence the more appropriate term of morphodysphoria. Primary dismorphophobia is a neurotic or psychotic characteristic diagnosed in the absence of any other psychiatric illness. Secondary dismorphophobia arises secondary to depression, schizophrenia, or anxiety [23].

4.12 Periodontal Diseases

The etiology of inflammatory periodontal disease is complex. The etiological significance of biological and behavioral risk factors, including systemic conditions, smoking, oral hygiene, and age has been demonstrated. However, a significant proportion of the variation in disease severity cannot be explained by taking only these factors into consideration. A psychosomatic disorder affects periodontium by two ways:

- 1) Self-inflicted injuries seen in these patients
- 2) Via disturbance in autonomic nervous system altering tissue response [24].

4.13 Necrotizing Ulcerative Gingivitis

Necrotizing ulcerative gingivitis (NUG) is a fusospirochetal infection caused by local and systemic predisposing factors. Among these, emotional stress appears to be the most common, although debilitating diseases, nutritional deficiencies, and neurologic diseases also play important roles. Emotional stress may lead to NUG indirectly by an expression of cortisol and catecholamine levels [25].

5. Management of Psychosomatic Disorders [26]

Various treatment modalities tried out are:

1. Psychotherapy or the remedial influence of mind

- a. Cognitive-behavioral therapy
- b. Self-observation
- c. Relaxation training
- d. Hypnotherapy
- e. Biofeedback

2. Pharmacotherapy

- a. Antidepressants
- b. Antianxiety drugs
- c. Antipsychotic drugs.

6. Conclusion

To conclude, we can say that many diseases manifesting in the oral cavity have a psychological component in their etiology or have some effect of psychological factors. Further, many psychiatric disorders have an influence upon health of oral tissue. Because stress is increasing in everyday life due to cut-throat competition in every field, there are more chances of dental practitioners encountering patients with such disorders. Hence, one should be familiar with such manifestations, and if accounted, should try to manage them with psychiatrists, whenever needed.

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