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RELATIONSHIP OF PSYCHOLOGICAL CHARACTERISTICS AND ORAL DISEASES AND INCIDENCE OF ORAL DISEASES IN PATIENTS WITH PSYCHOSOMATIC DISORDERS – A HOSPITAL BASED STUDY.

Oral Medicine

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ABSTRACT

Context: Psychosomatic disorders are the consequences of harmful effects that result from psychological influences on the organic control of tissues. Oral changes are significant indicators in psychosomatic patients.

Aim: To determine the incidence of oral diseases in patients with psychosomatic disorders and to assess the correlation between oral changes and psychological characteristics among these patients.

Subjects and methods: The present study included 250 psychosomatic patients who reported to Department of Psychiatry. The prevalence of oral diseases was assessed. The patients who used psychotropic drugs were excluded from the study. The levels of anxiety and depression were assessed by Hamilton Anxiety Depression Rating Scale

Statistical analysis Used: The association between levels of depression and dental problems, comparison between dental problems in males and females was assessed by Chi- square test.

Results: It was found that psychological changes may play a role in certain oral diseases. The prevalence of oral findings in psychosomatic patients were as follows: Periodontal problems-37.8%; bruxism and Myofascial Pain Dysfunction Syndrome (MPDS) - 17.2%; burning mouth syndrome-13.2%; recurrent aphthous ulcers- 12.8%; xerostomia- 10.40%; and oral lichen planus- 9.6%. The occurrence of lichen planus was higher in patients with higher levels of anxiety and depression. The association between oral changes and levels of depression was statistically significant (p-0.0001).

Conclusion- Anxiety and depression play a significant role in the occurrence of oral changes, and are possibly the initiators itself. The results revealed that there was a significant co- relation between the psychological characteristics and oral diseases.

KEYWORDS

Psychosomatic disorder, Oral diseases, Hamilton Anxiety Depression Rating Scale, Oral Lichen Planus.

Introduction:

Psychiatric disorders are increasing in adult population representing nearly 10 % of global diseases. Oral changes with psychosomatic aetiology are a group of disorders long known in medicine. They are insufficiently investigated subgroups of psychosomatic diseases.[1] The body and mind greatly influence each other. Diseases interact between the body and the mind. The oral mucosa is highly reactive to psychological influences.[2]

In some cases oral diseases may be direct expression of emotions or conflicts, while in other instances lesions of the oral cavity may be indirect result of emotional problem.[3] Mouth is directly or symbolically related to major human instincts and passions.[3] The mental or emotional factors may act as a risk factor that could influence the initiation and progression of oromucosal diseases. Psychosomatic disorders are the consequences of harmful effects that result from psychological influences on the organic control of tissues [3]. The most common factors are stress, anxiety and depression. A wide spectrum of psychiatric disorders affects oral and paraoral structures but unfortunately they remain unrecognized because of the common and limited nature of their presenting features.

Emotional and psychological factors can disturb a wide variety of hormonal, vascular and muscular functions, all of which may produce peripheral changes varying from pain, disturbance in jaw movement, xerostomia and ulcerations.[3] Many of the disorders which are believed to be of psychosomatic character still do not have sufficient explanation of their aetiology, or it is considered to be multicausal or even idiopathic. Due to changes in lifestyle there has been an increase in number of people being diagnosed with "Oral Psychosomatic Disorders" where oral lesions are predominant . This brings an increasing demand for proper diagnosis and treatment of the disorders. It is also necessary for dental students to learn psychosomatic dentistry. A general dentist should be competent to identify patients with oral psychosomatic disorders and refer them to specialists for treatment. In their daily practice, dentists frequently encounter patients showing signs of different mental disorders, such as anxiety, fear and various forms of neuroticism.[3] In the Indian context, only few studies have explored the relationship of psychological diseases with oral changes. Therefore this study was undertaken to investigate oral findings in patients with anxiety and depression in Belagavi city.

Methodology

Subjects of either sex who were diagnosed with psychosomatic disorders at the Department of Psychiatry were included in the study after obtaining an informed consent. 250 subjects were randomly selected by lottery method Ethical clearance was obtained from the Ethical committee. The subjects included in the study were patients with stress, anxiety and depression, patients above 18 years of age and who were willing to participate. The patients with neurocentric disorders, medically compromised patients and patients not willing to participate in study were excluded from the study. The levels of stress and anxiety were evaluated by Hamilton Anxiety Depression Rating Scale. (Figure1). The oral examination was done by a single examiner and the diagnosis was done by clinical observation. Many observers were not included. The general population was not included as it was a cross-sectional study involving the psychosomatic patients with stress, anxiety and depression.

Results:

The findings were categorised based on grades of anxiety and depression as mild, moderate and severe. Oral findings in each of the group showed variations. (Table 1a) In patients with anxiety and depression the prevalence of periodontal problems and halitosis was 36.8%, prevalence of xerostomia was 10.4%, bruxism and oral parafunctions including Myofascial Pain Dysfunction Syndrome (MPDS) was 17.2%, burning sensation was 13.2%, aphthous ulcers

12.8% and prevalence of oral lichen planus was 10.4%. The association between levels of depression and dental problems was assessed. (Table 1b) It was found that in 36.36% of the patients with mild depression, burning sensation was a predominant finding and none had lichen planus. 54.35% patients with moderate depression had periodontal problems and 27.27% patients with moderate depression had burning sensation.58.33% of patients with severe depression had lichen planus and 13.95% of the patients had bruxism and parafunctional habits. The prevalence of oral lichen planus was higher in female patients with a prevalence rate of 87.5% and xerostomia was prevalent in male patients with a prevalence rate of 76.92% which is shown in Table 1 c. The mean depression score among dental problems was compared and was found to be highest in patients with oral lichen planus (23.71 ± 2.73) and burning sensation (19.0 ± 6.15).

Discussion

Stress acts and potentiates the hypophyseal pituitary-adrenal axis (HPA axis), leading to increased serum cortisol levels, which is thought to have anti-stress effects by release of Corticotrophin releasing factor (CRF). CRF can stimulate norepinephrine release via CRF receptors, which activates the sympathetic nervous system and increases epinephrine release from the adrenal medulla. Thus, a decrease in cortisol availability in traumatized or chronically stressed individuals may determine an increased vulnerability to bodily disorders, promoting a disinhibition of immune disorders.[3]

Since the oral tissues are highly reactive to psychological influences, oral symptoms are common psychosomatic manifestation.[3] Psychological factors result in the alteration in the nervous system markers [catecholamines; adrenaline, noradrenaline, and Dopamine], Endocrine system markers [cortisol and aldosterone], and immune system [T cells, B cells and Natural Killer cells, Immunoglobulin's] resulting in the initiation or pathogenesis of the oral disease.[2] There is no literature available to compare prevalence of oral diseases in different levels of depression. The difference in prevalence rates of oral manifestations and stress, anxiety could be attributed to different demographic variables, genetic factors and difference between the racial groups.[2]Many researchers evaluated the stress, anxiety and depression levels in patients suffering from oral diseases.

They concluded that significantly higher stress, anxiety and depression levels were found in the Recurrent Aphthous Ulcers (RAS), Burning Mouth Syndrome (BMS) and Oral Lichen Planus (OLP) patients when compared to controls.[2,6] Many studies have assessed the prevalence of OLP in the general population. In contrast, the present study evaluated the oral mucosal diseases in anxiety and depression patients which could explain higher prevalence of OLP in present study. Several studies have elucidated the possible role of psychological state in precipitation of various oral diseases like RAS, OLP and BMS, but very few studies showed prevalence of oral diseases in psychiatric conditions like anxiety and depression in the Indian context.[5, 6] Emotional factors have potential influence on the body and may cause pathological changes or subjective symptoms in normal oral mucosa. Many researchers found that oral diseases frequently undergo periods of remissions and exacerbations that often clearly relate to the patients emotional status.[7,9]

In our study, the prevalence of periodontal problems and halitosis is 36.8% which may be secondary to improper oral hygiene maintenance. Prevalence of recurrent Aphthous ulcer in this study is 12.82% which is comparable to reports in literature.[1]

The incidence of oral lichen planus in the general population ranges from 10 to 34%.[8] In the Indian context, the prevalence of lichen planus ranges from 1.5%- 5.7% in patients with anxiety and depression. In our study, the prevalence of oral lichen planus was 10.4%.

In literature, it has been found in the range of 0.7%-13%.[1, 2, 3] The prevalence of burning mouth syndrome in this study was 13.20%. The higher prevalence of BMS in this study may be attributed to the longer duration of history of psychosomatic disorders. The prevalence rate of 14.8% was estimated in literature which was comparable to our findings.[2] The prevalence of burning mouth syndrome in our study sample was compared to that reported in literature. The significant occurrence of bruxism (17.2%) is relatively difficult to compare with other studies due to the fact that different studies have used different criteria for diagnosis.[1] The occurrence of xerostomia in patients with psychosomatic disorders ranges from 10.5% -12.27%.[1] The occurrence of reduced secretion of saliva and feeling of dryness in the mouth (xerostomia) was found in approximately 10.4% patients in our study which is comparable to the findings in literature. Based on these findings we find that anxiety and depression play a significant role in the mechanism of the occurrence of oral changes, and are possibly the initiators of the oral changes.[1,10]

Limitations- The association between oral diseases and anxiety and depression appears significant, however on the basis of such a descriptive study we cannot claim that the observed psychosomatic characteristics are the cause of the occurrence of these diseases, only that they are significantly connected with their occurrence. The variations in oral manifestations may be attributed to inclusion of only anxiety and depression patients in the study rather than all psychiatric conditions. We also did not take into consideration the role of medications in the investigated oral manifestations.

Conclusion

The present study revealed that there is a significant association between the psychological characteristics and oral diseases. Examination of the psychological characteristics is useful in those patients in whom oral diseases with possible psychosomatic aetiology frequently occurs because it would help in preventing oral diseases in patients with psychosomatic disorders. Occurrence of oral lichen planus is more in those patients who have higher levels of stress and depression. Oral health is important for patients with special needs such as, psychiatric patients. The results of the present study provide information on the distribution of oral mucosal diseases and prevalence of oral mucosal diseases in different grades of anxiety and depression in psychosomatic disorders. Oral changes appear to be significantly higher in individuals with anxiety and depression than the normal healthy individuals with sound mind and body. It is the responsibility of the oral health provider to effectively provide adequate dental treatment for patients with psychosomatic disorders and refer them to a psychiatrist for further treatment. Similarly psychiatrists who treat patients with psychosomatic disorders should refer patients for screening and treatment of oral psychosomatic disorders. Psychiatric analysis and intervention should be considered while treating these oral diseases. Counselling should be instituted as a routine protocol for patients with oral lesions having psychosomatic disorder before initiating any treatment. Such patients will require concentrated efforts by oral physicians and psychiatrists.

TABLES AND GRAPHS

Dental Conditions	p Value					Mean ± S.D
Apthous ulcers	-					22.13 ± 4.09
Bruxism and oral parafunctions(MPDS)	p=0.0806	-				19.30 ± 4.90
Burning sensation	p=0.0598	p=0.9997	-			19.00 ± 6.15
Oral lichen planus	p=0.7871	p=0.0018*	p=0.0015*	-		23.71 ± 2.73
Periodontal problems & halitosis	p=0.9999	p=0.0132*	p=0.0117*	p=0.5944	-	22.04 ± 4.26
Xerostomia	p=0.9953	p=0.3679	p=0.2829	p=0.5150	p=0.9945	21.50 ± 4.15
p Value * - statistically significant						

Table 1 a- Comparison of mean depression scores among dental problems

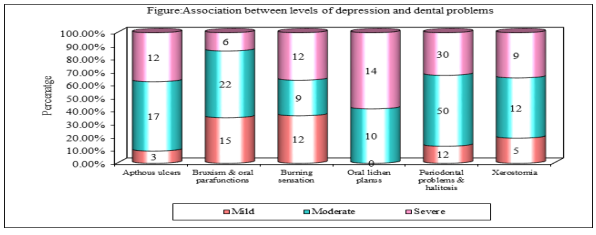


Table 1- b Association between levels of depression and dental problems

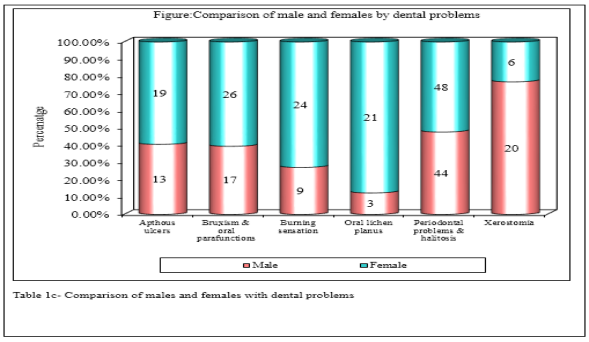
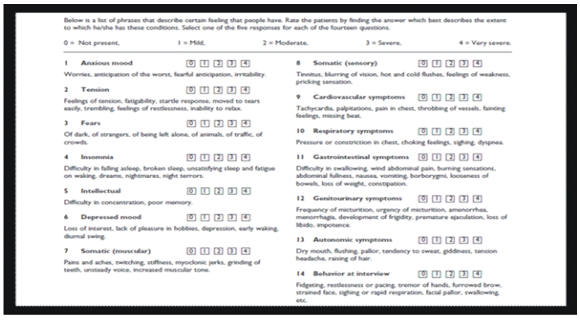


Table 1c- Comparison of males and females with dental problems

Figure 1- Hamilton Anxiety Depression Rating Scale



Below is a list of phrases that describe certain feeling that people have. Rate the patients by finding the answer which best describes the extent to which he/she has these conditions. Select one of the five responses for each of the fourteen questions.

0 = Not present. 1 = Mild. 2 = Moderate. 3 = Severe. 4 = Very severe.

1 Anxious mood [0] [1] [2] [3] [4]
Worries, anticipation of the worst, fearful anticipation, irritability.

2 Tension [0] [1] [2] [3] [4]
Feelings of tension, fatigability, startle response, moved to tears easily, trembling, feelings of restlessness, inability to relax.

3 Fears [0] [1] [2] [3] [4]
Of dark, of strangers, of being left alone, of animals, of traffic, of crowds.

4 Insomnia [0] [1] [2] [3] [4]
Difficulty in falling asleep, broken sleep, unsatisfying sleep and fatigue on waking, dreams, nightmares, night terrors.

5 Intellectual [0] [1] [2] [3] [4]
Difficulty in concentration, poor memory.

6 Depressed mood [0] [1] [2] [3] [4]
Loss of interest, lack of pleasure in hobbies, depression, early waking, diurnal swing.

7 Somatic (muscular) [0] [1] [2] [3] [4]
Pains and aches, twitching, stiffness, myoclonic jerks, grinding of teeth, unsteady voice, increased muscular tone.

8 Somatic (sensory) [0] [1] [2] [3] [4]
Tinnitus, blurring of vision, hot and cold flushes, feelings of weakness, pricking sensation.

9 Cardiovascular symptoms [0] [1] [2] [3] [4]
Tachycardia, palpitations, pain in chest, throbbing of vessels, fainting feelings, missing beat.

10 Respiratory symptoms [0] [1] [2] [3] [4]
Pressure or constriction in chest, choking feelings, sighing, dyspnea.

11 Gastrointestinal symptoms [0] [1] [2] [3] [4]
Difficulty in swallowing, wind abdominal pain, burning sensations, abdominal fullness, nausea, vomiting, borborygmi, looseness of bowels, loss of weight, constipation.

12 Genitourinary symptoms [0] [1] [2] [3] [4]
Frequency of micturition, urgency of micturition, amenorrhea, menorrhagia, development of frigidity, premature ejaculation, loss of libido, impotence.

13 Autonomic symptoms [0] [1] [2] [3] [4]
Dry mouth, flushing, pallor, tendancy to sweat, giddiness, tension headache, raising of hair.

14 Behavior at interview [0] [1] [2] [3] [4]
Fidgeting, restlessness or pacing, tremor of hands, furrowed brow, strained face, sighing or rapid respiration, facial pallor, swallowing, etc.

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