

Pattern of Anxiety and Depression with Associated Factors in Oral Lichen Planus: A Questionnaire Based Study

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ABSTRACT

Introduction: Oral lichen planus (OLP) is a common oral disease affecting 0.5 to 2.2% of general population. It is considered as a chronic inflammatory autoimmune disorder and may be associated with additional factors like viral and chemical agents, medications, stress, anxiety, and depression. This study aimed to determine the role of anxiety and depression in the clinical status of oral lichen planus.

Methodology: The study included 30 OLP patients reporting to the Department of Oral Medicine and Radiology. The clinical diagnosis of OLP was done based on WHO diagnostic criteria, followed by psychological analysis of each patient using Hamilton Anxiety and Depression Rating Scales (HARS and HDRS).

Results: The study demonstrated the presence of anxiety and depression in OLP patients and also showed association of symptoms of OLP with the degree of anxiety and depression.

Conclusion: It is beneficial to recommend psychological therapy alongwith the standard OLP therapy for successful treatment.

INTRODUCTION

Psychiatric diseases are increasing considerably in last few years representing a major health problem in the current scenario. Anxiety and depression are one of the most prevalent psychiatric diseases. Since oral mucosa is extremely reactive to emotional influences like stress, anxiety, and depression, it may undergo pathological changes resulting in psychosomatic diseases like oral lichen planus (OLP), burning mouth syndrome, and recurrent aphthous stomatitis. Psychosomatic disorders

account for 10% of the global burden of disease and this is expected to rise to 15% by 2020.^{1,2,3}

The oral cavity might well be thought as a window to the body because oral manifestations accompany many systemic diseases. In many instances, oral involvement precedes the appearance of other symptoms or lesions at other locations.⁴ Oral lichen planus is considered as a chronic inflammatory autoimmune disorder whose precise etiology is not known. Its pathogenesis mainly involves autoimmune and genetic factors and several other influencing factors like viral and bacterial infections, drugs, stress, anxiety, and depression. Several studies have proposed that psychological disturbances may procreate the development and progression of oral lichen planus.^{1,2,3,5} Hence, the present study was undertaken to determine the role of psychological factors like anxiety and depression in oral lichen planus patients and also to compare the degree of anxiety and depression with clinical symptoms and different types of OLP.

METHODS

The present study included 30 patients of either sex above 15 years of age. Patients associated with systemic diseases and those on psychoactive drug therapy were excluded. The diagnosis of OLP was made on the basis of modified WHO clinical criteria.

Modified WHO clinical criteria 2003²:

- Presence of bilateral, more or less symmetrical lesions
- Presence of a lace like network of slightly raised gray-white lines (reticular pattern)
- Erosive, atrophic, bullous, and plaque-type lesions are accepted only as a subtype in the presence of reticular lesions elsewhere in the oral mucosa

Symptoms associated with OLP, that is pain or burning sensation were recorded with the help of visual analog scale (VAS). After arriving at the clinical diagnosis, psychological assessment of each patient was done by the same investigator using Hamilton Anxiety and Depression Rating Scale⁶ (HARS and HRDS). Hamilton Anxiety Scale comprises of 14 questions and based on final scoring, patients were grouped into following categories:

- 0-17 : normal or no anxiety,
- <17 : mild anxiety,
- 18-24 : mild-moderate anxiety, and
- 25-30 : moderate-severe anxiety.

Hamilton depression scale⁷ consists of 17 questions and patients were grouped as:

- <7 : normal or no depression,
- 8-13 : mild,
- 14-18 : moderate, and
- >18 : severe.

Statistical analysis: It included calculation of mean and standard deviation for total anxiety and depression scores. Comparison of anxiety and depression scores with respect to age and gender was done by using student's t test and with different types of OLP using one way ANOVA test. Symptoms of OLP were correlated with the degree of

anxiety and depression using Chi-square test. All statistical analysis was carried out using SPSS software version 20 by SPSS Inc. Chicago (USA).

RESULTS

The present study included 30 patients with OLP, 16 were females and 14 were males of age ranging between 18-70 years with the mean age of 40 years. Reticular form of OLP was observed in 15 patients, atrophic form in 9 patients, and 6 patients had erosive form of OLP.

On Hamilton anxiety rating scale, out of 30 OLP patients, 4 had normal or no anxiety, 8 patients had mild anxiety, 15 had moderate anxiety, and 3 had severe anxiety. For all 26 patients, mean anxiety score was 15.87 with standard deviation of 5.94 (Table 1). On Hamilton depression scale, out of 30 OLP patients, 4 had normal or no depression, 6 had mild depression, 17 had moderate depression, and 3 had severe depression with the mean depression score of 13.4 and standard deviation 4.21 (Table 1).

On analyzing the mean anxiety and depression score with age and gender, there was greater degree of anxiety and depression in patients >30 years of age when compared to patients <30 years of age and the values were statistically significant whereas, mean anxiety and depression scores were higher in males as compared to females but the difference was not statistically significant (p value: anxiety-0.4331, depression-0.3001)(Table 2).

Table 1: Distribution of anxiety and depression in patients with oral lichen planus

	Anxiety (N=30)		Depression (N=30)	
Normal	4		Normal	4
Mild	8		Mild	6
Mild-Moderate	15		Moderate	17
Moderate-Severe	3		Severe	3
Mean Score ± SD	15.8 ± 5.9		Mean Score ± SD	13.4 ± 4.2

Table 2: Distribution of anxiety and depression score with age and gender

		Anxiety		Depression	
		Mean ± SD	p value	Mean ± SD	p value
Age	≤ 30	12.5 ± 4.74	0.0129*	11.1 ± 3.11	0.0158*
	> 30	17.55 ± 5.76		14.55 ± 3.95	
Gender	Male	16.07 ± 6.64	0.4331	13.71 ± 4.38	0.3001
	Female	15.69 ± 5.25		13.31 ± 4.18	

* p value < 0.05, significant

On analysing degree of anxiety and depression with different types and symptoms of OLP, it was found that patients with erosive form showed higher anxiety (p value 0.0389*) and depression (p value 0.0218*) scores followed by the atrophic and reticular form (Figure 1). Similarly, patients having more burning sensation had increased anxiety (p value = 0.033*) and depression (p value = 0.037*) scores (Figure 2 and 3).

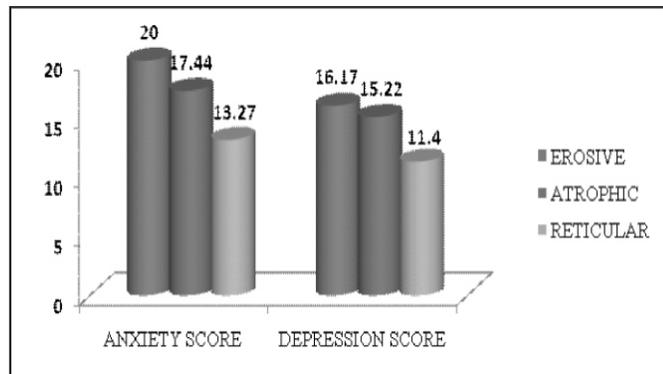


Figure 1: Comparison between anxiety and depression score with types of oral lichen planus.

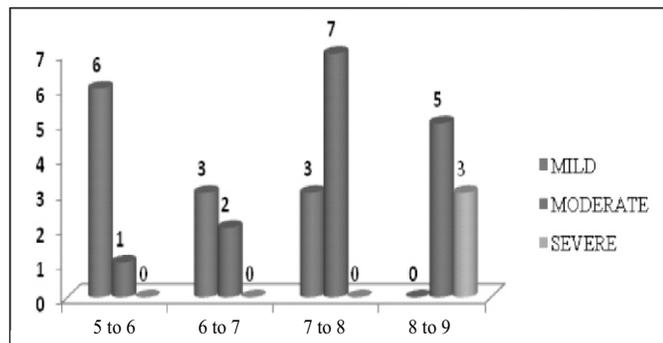


Figure 2: Distribution of anxiety score with VAS score for burning sensation.

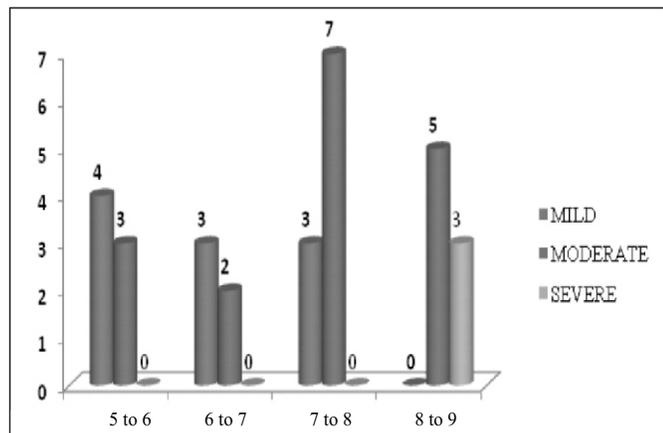


Figure 3: Distribution of depression score with VAS score for burning sensation.

DISCUSSION

Lichen planus (LP) is a chronic mucocutaneous disorder of the stratified squamous epithelium that affects oral and genital mucous membranes, skin, nails, and scalp. Oral lichen planus is the mucosal counterpart of cutaneous LP, first described by Erasmus Wilson in 1869 affecting about 0.5-2.0% of the general population. This disease commonly occurs in 4th-5th decades of life with female predominance.^{2,8,9} The maximum number of patients in the present study were above 40 years of age with marginal female predominance (16) as compared to males (14) which is in concordance with the earlier studies.^{1,8,9} OLP has six clinical presentations such as reticular, erosive, atrophic, plaque-like, popular, and bullous.⁴ In the current study, reticular form was more commonly seen (50%) followed by atrophic and erosive form with the buccal mucosa being most common site, similar findings were reported by Nosratzahi et al⁹ and Girardi C et al.¹

The exact etiology of LP is unknown, but a change in cell mediated immune response resulting in degeneration of epithelial basal layer has been demonstrated to have a significant role in the pathogenicity of the lesion.¹⁰ One of the factors responsible for the development of OLP is anxiety and psychological stress.⁴ Many patients have been described as being “highly hysterical”, “subject to anxiety and sorrow from family vexation”, “of delicate constitution”, and “of highly nervous temperament”, since then attention has been drawn to psychosomatic factor.¹¹ “Stress can kill you” is no longer just an expression; it's a scientific fact.¹² Psychological factors like stress, anxiety, and depression establish its impact on the body by interaction between nervous, endocrine, and immune system. Stress stimulates HPA axis to release hormones like cortisol which affects the immunocompetent cells through specific receptors and alter the lymphocytic state resulting in several immunological diseases.^{8,13} Anxiety and depression can elevate inflammation in the body increasing the risk for inflammatory diseases.¹²

This study was undertaken to evaluate the presence of psychological conditions like anxiety and depression in patients with OLP. Anxiety and depression were assessed by using Hamilton anxiety and depression scale. Results showed presence of anxiety and depression in 26 patients out of 30 with high anxiety and depression score, mean value being 15.8 and 13.4, respectively. Several other

studies used same scales and showed higher anxiety and depression scores in OLP patients.^{11,14} On correlating the degree of anxiety and depression with age and gender, there was significant increase in anxiety and depression scores in older patients (>30 years). Similar finding was also observed by Gavic L et al¹⁵; this study inferred high prevalence of stress factors in OLP patients with a rate of 50% patients showing positive for anxiety and depression test whereas 40% of them were at borderline. There was no significant difference in the scores between males and females in the present study. A study by Srivastava A et al¹¹ also revealed non-significant relation between gender and OLP, with an incidence of severe anxiety and depression in 21% and 19%, respectively and borderline anxiety and depression in 15% of OLP patients. Significantly higher degree of anxiety and depression was observed in patients with symptomatic erosive form of OLP than less symptomatic non-erosive form. This finding was also evident in several other studies.^{2,11,16} These studies showed variable prevalence of anxiety and depression in OLP patients i.e 33%, 52%, and 49%, respectively. The present study showed presence of anxiety and depression in OLP and association of degree of anxiety and depression with increase in symptoms with a prevalence rate of 85%. But the controversy still exists whether OLP lesions have preceded anxiety and depression or they are the causative factors. Further extensive research is needed to make this distinction.

CONCLUSION

Psychological factors like anxiety and depression are significantly associated with the occurrence and symptoms of OLP. Hence, it is important to include psychological assessment alongwith symptomatic treatment of OLP. This will eliminate major stress factors to which patients are exposed reducing their chance to develop depressive symptoms and significantly decrease clinical symptoms of OLP, thus improving their quality of life.

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