

Evaluating Oral Health Related Quality of Life and Anxiety Among Recurrent Aphthous Ulcer Patients

¹Dr. Shitanshu Malhotra, ²Dr. Vishwas Singh, ³Dr. Prateek Banerjee, ⁴Dr. Omveer Singh

Author's Affiliation:

¹Professor & Head Department of Public Health Dentistry Career Post Graduate Institute of Dental Sciences & Hospital, Lucknow

²Post Graduate Trainee Department of Public Health Dentistry Career Post Graduate Institute of Dental Sciences & Hospital, Lucknow

³Senior lecturer Department of Public Health Dentistry Career Post Graduate Institute of Dental Sciences & Hospital, Lucknow

⁴Associate Professor Department of Public Health Dentistry Career Post Graduate Institute of Dental Sciences and Hospital Lucknow

Corresponding Author: Dr. Shitanshu Malhotra Professor & Head Department of Public Health Dentistry Career Post Graduate Institute of Dental Sciences & Hospital, Lucknow

ABSTRACT:

Introduction: Individuals with RAU may face challenges in daily activities, experience psychological distress, and encounter social limitations. A thorough investigation into these dimensions is essential for developing patient-centered healthcare strategies.

Materials & Methods: A cross-sectional observational study design is used comprehensively to investigate the psychological aspects and Oral Health-Related Quality of Life (OHRQoL) among patients diagnosed with Recurrent Aphthous Ulcers (RAU). The study also incorporates a detailed investigation into the relationship between psychological factors, specifically stress, and the occurrence of recurrent oral ulcers.

Results: Results of the present study observed that RAU patients, as a group, had higher OHRQoL scores, with an OHIP - 14 score of 21.3864 ± 5.97754 . This indicates that RAU has a negative impact on the oral health-related quality of life, with affected individuals reporting a decreased quality of life in areas related to their oral health. The data obtained were subjected to statistical analysis using Statistical Package for the Social Sciences (SPSS Version 23; Chicago Inc., IL, USA).

Conclusion: The study revealed that individuals with RAUs were prone to heightened levels of anxiety, indicating a potential psychological impact associated with the condition. The study further highlighted no gender differences in the experience of oral health-related quality of life.

Keywords: Anxiety, Aphthous, Oral-Health, Quality of Life, Recurrent.

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Introduction

Oral health is integral to the overall well-being of an individual, and the oral cavity is susceptible to a myriad of conditions that can significantly impact one's quality of life. Among these, Recurrent Aphthous Ulcers (RAU), Oral Lichen Planus (OLP), and Burning Mouth Syndrome (BMS) present as common, chronic, and often challenging manifestations affecting the oral mucosa. These conditions, characterized by diverse lesions, manifest under the influence of various factors, making their clinical presentation more intricate and sometimes recalcitrant.^{1,2}

RAU, in particular, stands out as one of the most prevalent painful oral mucosal diseases, with a global incidence as high as 4.0%.^{3,4} In the current landscape of oral healthcare, the treatment of these oral mucosal diseases predominantly revolves around symptomatic relief and lesion management. However, the influence of psychological factors, particularly stress, anxiety, and depression, on the occurrence and exacerbation of these conditions has gained attention.⁵

Despite the acknowledged impact of psychological factors on oral mucosal diseases, the integration of psychological considerations into the treatment paradigm has been limited. The lack of definitive evidence and regional variations in oral healthcare approaches contribute to the current state where psychological problems are not given due consideration in the management of these conditions. Consequently, the treatment of oral mucosal diseases remains largely symptomatic, often falling short in improving patients' overall quality of life.⁴

In the context of dental students, stress emerges as a substantial threat, exerting a negative influence on both physical and mental health, ultimately affecting academic performance and overall quality of life.^{6,7} This

study seeks to address this critical gap by delving into the psychological aspects and Oral Health-Related Quality of Life (OHRQoL) of patients grappling with RAU.

Materials & Methods

This research employed a cross-sectional observational study design to comprehensively investigate the psychological aspects and Oral Health-Related Quality of Life (OHRQoL) among patients diagnosed with Recurrent Aphthous Ulcers (RAU).

The study included a targeted sample of patients diagnosed with RAU, recruited from OPD of Oral Medicine and Radiology, Career Post Graduate Institute of Dental Sciences and Hospital. Participants were selected based on predetermined inclusion and exclusion criteria. Inclusion criteria encompasses individuals with a confirmed diagnosis of RAU, aged 18 years or above, and willing to participate in the study. Exclusion criteria involved individuals with other significant oral mucosal diseases, systemic conditions affecting oral health, or those unwilling to provide informed consent.

The sample size was determined using statistical power analysis to ensure adequate representation for robust conclusions. The final sample size was set at 246. Ethical approval was obtained from the Institutional ethical committee of Career Post Graduate Institute of Dental Sciences and Hospital, Lucknow. Informed consent was sought from all participants.

Participants completed a standardized questionnaire assessing psychological factors, including stress, anxiety, and depression using Hospital Anxiety and Depression scale. OHRQoL was evaluated using validated instruments such as the Oral Health Impact Profile - 14 (OHIP) questionnaire. The Hospital Anxiety and Depression Scale (HADS) is a self-report questionnaire widely used to assess and

screen for symptoms of anxiety and depression in individuals with physical health conditions, especially those receiving medical care in hospitals.

A thorough clinical examination by a single examiner was conducted to confirm the diagnosis of RAU and assess the severity and recurrence pattern of oral ulcers. Relevant clinical data, including ulcer characteristics and locations, was documented. The investigator was calibrated in the department prior to the conduction of the study.

Quantitative data collected from questionnaires and clinical examinations was analyzed using Statistical Package for Social Sciences 26.0 version (SPSS). Descriptive statistics

summarized demographic characteristics, psychological factors, and OHRQoL scores.

Results

The current study aimed to assess the impact of recurrent aphthous ulcers on the oral health-related quality of life (OHRQoL) and anxiety in individuals with condition. The present study also examined whether gender played significant roles in affecting OHRQoL scores.

The study included RAU patients across a wide age range. The age of participants ranged from 21 to 76 years, with a mean age of 45.7 years. The distribution of patients across different age groups was relatively even, with the majority falling within the 40-60 age range.

| Gender | Number | Percentage |
|---------|--------|------------|
| Males | 130 | 52.8 |
| Females | 116 | 47.2 |
| Total | 246 | 100.0 |

Table 1: illustrates gender distribution of study population. The results showed out of 246 participants 130 (52.8%) were males and 116 (47.2%) were females.

| RAU | Number | Percentage |
|---------|--------|------------|
| Present | 44 | 17.8 |
| Absent | 202 | 82.2 |
| Total | 246 | 100.0 |

Table 2: illustrates RAU distribution of study population . In the present study, 44 (17.8%) of population manifested with RAU while 202 (82.2%) did not show sign of RAU.

Results of the present study observed that RAU patients, as a group, had higher OHRQoL scores, with an OHIP – 14 score of 21.3864 ± 5.97754 . This indicates that RAU has a negative

impact on the oral health-related quality of life, with affected individuals reporting a decreased quality of life in areas related to their oral health. (Table 3)

| Domains | RAU | N | Mean | Std. Deviation | Std. Error Mean | 't' statistic | P value |
|--------------------------|---------|-----|---------|----------------|-----------------|---------------|-----------|
| Functional Limitation | Present | 44 | 3.7045 | 1.74649 | .26329 | 2.515 | .013* |
| | Absent | 202 | 2.9901 | 1.69867 | .11952 | | |
| Physical pain | Present | 44 | 3.2045 | 1.35680 | .20455 | 2.305 | .022* |
| | Absent | 202 | 2.7030 | 1.29710 | .09126 | | |
| Psychological discomfort | Present | 44 | 3.0227 | .40282 | .06073 | .354 | .724 (NS) |
| | Absent | 202 | 2.9950 | .48354 | .03402 | | |
| Physical disability | Present | 44 | 3.1136 | .96968 | .14618 | 1.436 | .152 (NS) |
| | Absent | 202 | 2.8515 | 1.12313 | .07902 | | |
| Psychological disability | Present | 44 | 3.0227 | 1.13073 | .17046 | .687 | .493 (NS) |
| | Absent | 202 | 2.8663 | 1.41314 | .09943 | | |
| Social disability | Present | 44 | 2.9545 | 1.46199 | .22040 | 3.031 | .003* |
| | Absent | 202 | 2.2129 | 1.47255 | .10361 | | |
| Handicap | Present | 44 | 2.3636 | 1.27755 | .19260 | 2.537 | .012* |
| | Absent | 202 | 1.7921 | 1.37002 | .09639 | | |
| OHIP - 14 | Present | 44 | 21.3864 | 5.97754 | .90115 | 2.785 | .006* |
| | Absent | 202 | 18.4109 | 6.51325 | .45827 | | |

Table 3: Oral health related quality of life in Recurrent aphthous patients - Domain wise

The results revealed a statistical significant association between domain such as functional limitation ($p = 0.013$), physical pain ($p = 0.022$), social disability ($p = 0.03$) and handicap ($p = 0.012$) and recurrent aphthous ulcer patient. It was eventually observed that OHIP- 14 had a significant association with RAU patients ($p = 0.006$).

The study also examined the role of gender in affecting OHRQoL scores in RAU patients. Our results indicated that gender did not play a significant role in influencing OHRQoL. This means that both male and female RAU patients had similar OHRQoL scores, suggesting that gender alone does not significantly contribute to

the differences in quality of life related to oral health in this patient group.

Discussion

The present study is a prospective and comparative investigation into the quality of life, anxiety, and depression status of patients with Recurrent Aphthous Ulcer (RAU) in Lucknow, utilizing the Oral Health Impact Profile (OHIP - 14) and the Hospital Anxiety and Depression Scale (HADS).

In this study, patients also reported highly negative oral health impacts of ulcers during ulcer episodes in comparison with the ulcer-free state, confirming previous findings. Yang et al.^{8,9}

investigated psychological issues in patients with RAS, oral lichen planus (OLP), and burning mouth syndrome (BMS) using OHIP-14 and HADS, finding lower quality of life and higher levels of anxiety and depression in these patients.

While stress has been proposed as related to the etiopathogenesis of RAS, mechanisms such as increased immune system activity, production of inflammatory cytokines, elevated salivary cortisol levels, and oral mucosal trauma during stressful periods have been suggested. Our study aligns with others that have found no significant difference in anxiety and depression scores between RAS patients and controls. In addition, females had higher HAD anxiety scores and lower extraversion scores than males, again confirming previous studies.¹⁰

Recurrent aphthous ulcers (RAUs) can significantly impact oral health-related quality of life through various mechanisms. RAUs are often associated with pain and discomfort, especially during activities such as eating, drinking, and speaking. The constant presence of pain can diminish the individual's overall oral health-related quality of life, affecting their ability to perform daily activities and enjoy meals.¹¹

The relationship between anxiety and recurrent aphthous ulcers (RAUs) is complex and multifaceted. While anxiety is not a direct cause of RAUs, there is evidence suggesting that psychological factors, including stress and anxiety, can influence the occurrence and exacerbation of these oral ulcers. Anxiety and stress can contribute to alterations in immune function.¹²

In summary, recurrent aphthous ulcers can affect oral health-related quality of life through a combination of physical discomfort, psychological distress, social implications, and disruptions to daily activities. Addressing both the physical symptoms and the associated

emotional and social aspects is crucial for improving the overall well-being of individuals dealing with RAUs.¹⁰

Conclusion

The current study aimed to assess the oral health-related quality of life (OHRQoL) and anxiety levels among patients with recurrent aphthous ulcers (RAUs). The study was conducted on 246 patients. Informed consent of all participants were obtained and Ethical permission was obtained from Career Institute of Dental Sciences and Hospital, Lucknow before the commencement of the study. Oral health Impact Profile -14 was used to assess OHRQoL while HADS was employed to assess anxiety level.

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