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Psychological and Social Impact of Recurrent Aphthous Ulcers among Young Adults

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ABSTRACT

Background: Recurrent aphthous ulcers are painful sores that appear in the mouth and can make it hard to eat, talk, be social, and feel good about yourself. Young adults are affected by this condition due to multifactorial reasons. Hence, the current study was undertaken to investigate the psychological and social effects of recurring aphthous ulcers in young adults and to examine their correlation with clinical ulcer-related parameters.

Materials and Methods: A cross-sectional study was conducted involving 150 young individuals with recurrent aphthous ulcers. Demographic information, ulcer type, ulcer frequency, number of ulcers, pain score, episode duration, and functional impairments were documented. Structured scores were used to measure the psychological and social effects.

Results: A moderate-to-high psychosocial impact was observed in 88 participants (58.7%). There was no significant link between age, gender, and psychosocial impact. Frequent ulcer episodes, many ulcers, elevated pain scores, prolonged duration, challenges in eating and speaking, and avoidance of social interaction were substantially correlated with increased psychosocial impact. Psychological and social evaluations increased considerably with ulcer severity. **Conclusion:** Recurrent aphthous ulcers adversely impacted the psychological and social well-being of young people, particularly when the ulcers were numerous, painful, or severe.

Introduction

Recurrent aphthous ulcers are among the most common painful ulcerative conditions of the oral mucosal surface. They commonly present as round or oval ulcers with a yellow base and an erythematous halo, most commonly located on the non-keratinised mucosa, such as the labial and buccal mucosae, the floor of the mouth, and the soft palate. Despite the ulcers being innocuous and self-resolving, their frequent occurrence warrants clinical significance as affected patients endure recurrent bouts of pain, irritability and difficulty with

daily oral tasks [1,2].

It is the underlying cause of recurrent aphthous ulcers that remains somewhat elusive to medical science. A number of different hypotheses for several factors have been proposed, including local trauma, stress, inherited tendency, immunoregulatory alteration, dietary deficiency and food hypersensitivity, as well as hormonal change. In India, recurrent aphthous ulceration has become a fairly widespread oral mucosal condition, and it is seen among adolescents and young adults, who are at their most active academically [3,4]. It is critical to do so as young adults are exposed to academic

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pressure, emotional stress, social interaction, dietary irregularities and sleep disturbance, which may statistically affect the incidence and severity of ulcers.

The impact of recurrent aphthous ulcers is not limited to oral pain alone. During active episodes, patients may have difficulty in eating spicy or hard food, speaking clearly, brushing comfortably and attending social gatherings. Repeated ulcer episodes may also cause irritation, embarrassment and fear of recurrence. Previous studies have shown that recurrent aphthous stomatitis may be associated with anxiety, depression and psychological stress [5]. Higher salivary cortisol and anxiety levels have also been reported among patients with recurrent aphthous stomatitis, suggesting that stress-related biological changes may contribute to ulcer activity [6].

Quality of life is another important area affected by recurrent aphthous ulcers. Studies have reported that patients with recurrent aphthous ulcers have poorer oral health-related quality of life, especially during active ulcer episodes [7,8]. A case-control study also showed that the number and size of ulcers were related to the negative effect on quality of life [9]. However, the psychological and social effects of recurrent aphthous ulcers among young adults are often unrecognized in routine dental practice. Hence, the present study was conducted to answer the research question: What is the psychological and social impact of recurrent aphthous ulcers among young adults, and how is this impact related to ulcer-related clinical characteristics?

Methodology

A cross-sectional descriptive study was undertaken to assess the psychological and social impact of recurrent aphthous ulcers amongst young adults. The study was conducted in the institution's dental outpatient department after obtaining approval. Adults aged 18 to 30 years who presented with recurrent aphthous ulcers or reported a history of them were included in the study. Only those who provided written informed consent and were willing to complete the questionnaire were included in the study. Patients with traumatic ulcers, herpetic ulcers, oral lichen planus, pemphigus, pemphigoid, oral malignancy, inflammatory bowel disease, Behçet's disease, uncontrolled systemic illness, or those taking long-term corticosteroids or immunosuppressive drugs were excluded. Patients with incomplete responses were also excluded from the final analysis.

After obtaining consent, demographic details were recorded in the initial assessment. A detailed history of recurrent aphthous ulcers was then taken, including age of onset, frequency of recurrence, duration of each episode, number of ulcers, common site, precipitating factors, pain intensity

and history of treatment.

Clinical examination was performed under adequate illumination using sterilised diagnostic instruments. The site, number and size of ulcers were recorded. Pain intensity was assessed using a visual analogue scale or numerical rating scale. Based on clinical presentation, ulcers were categorised as minor, major, or herpetiform, wherever applicable.

Assessment of psychological impact

Psychological impact was assessed using a structured questionnaire that included items related to stress, anxiety, mood disturbance, irritability, sleep disturbance and fear of recurrence. A validated psychological scale such as DASS-21 was utilised to record depression, anxiety and stress scores. The questionnaire was explained to the participants in simple language before recording responses.

Assessment of social impact

Social impact was assessed by recording difficulties with eating, speaking, smiling, attending college or work, participating in social activities, and interacting with friends or family during ulcer episodes. Oral health-related quality of life was measured using the Oral Health Impact Profile – 14. (OHIP – 14).

Statistical analysis

The collected data were analysed using the Statistical Package for the Social Sciences (SPSS) version 25.0. Continuous variables were presented as mean and standard deviation. Categorical variables were presented as frequency and percentage. The association between ulcer characteristics and psychological or social impact was assessed using the chi-square test. Mean scores between groups were compared using one-way ANOVA. A p-value of less than 0.05 was considered statistically significant.

Results

The current study comprised 150 young individuals with recurrent aphthous ulcers. The average age of participants was 22.840 ± 3.120 years. Most of the people who took part had small aphthous ulcers, but a lot of them said they came back often, caused moderate to severe pain, made it hard to eat, and made them feel bad emotionally during ulcer episodes. The total psychosocial impact score was used to categorise overall psychosocial impact as low, moderate, or high. Of the 150 participants, 88 (58.7%) experienced moderate to high psychological impact, whereas 62 (41.3%) exhibited low psychosocial impact.

Table 1: Association of demographic and clinical variables with psychosocial impact among young adults with recurrent aphthous ulcers

Variable	Total n=150	Low impact n=62	Moderate-to-high impact n=88	Test value	p value
Age, years, Mean $\pm$ SD	22.840 $\pm$ 3.120	22.420 $\pm$ 2.940	23.140 $\pm$ 3.220	t = 1.394	0.165 NS
Male	57 (38.0%)	28 (45.2%)	29 (33.0%)	$\chi^2 = 2.286$	0.131 NS
Female	93 (62.0%)	34 (54.8%)	59 (67.0%)		
Minor aphthous ulcer	119 (79.3%)	56 (90.3%)	63 (71.6%)	$\chi^2 = 8.245$	0.016*
Major aphthous ulcer	21 (14.0%)	4 (6.5%)	17 (19.3%)		
Herpetiform ulcer	10 (6.7%)	2 (3.2%)	8 (9.1%)		
Ulcer frequency ≤ 3 episodes/year	48 (32.0%)	31 (50.0%)	17 (19.3%)	$\chi^2 = 16.412$	<0.001*
Ulcer frequency >3 episodes/year	102 (68.0%)	31 (50.0%)	71 (80.7%)		
Single ulcer per episode	64 (42.7%)	39 (62.9%)	25 (28.4%)	$\chi^2 = 17.634$	<0.001*
Multiple ulcers per episode	86 (57.3%)	23 (37.1%)	63 (71.6%)		
Pain score, Mean $\pm$ SD	5.780 $\pm$ 1.920	4.210 $\pm$ 1.360	6.890 $\pm$ 1.420	t = 11.544	<0.001*
Duration of ulcer episode, days, Mean $\pm$ SD	6.960 $\pm$ 2.480	5.480 $\pm$ 1.840	8.000 $\pm$ 2.340	t = 7.066	<0.001*
Difficulty in eating	112 (74.7%)	34 (54.8%)	78 (88.6%)	$\chi^2 = 21.878$	<0.001*
Difficulty in speaking	69 (46.0%)	17 (27.4%)	52 (59.1%)	$\chi^2 = 14.523$	<0.001*
Avoidance of social interaction	63 (42.0%)	12 (19.4%)	51 (58.0%)	$\chi^2 = 21.844$	<0.001*

* Significant; NS = Not significant.

Table 1 indicates that age and gender were not significantly correlated with psychosocial impact. Nonetheless, ulcer-related clinical variables were strongly correlated. Participants with large or herpetiform ulcers, frequent ulcer episodes, multiple ulcers, a higher pain score, a longer ulcer duration, trouble eating, difficulty speaking, and avoidance of social interaction exhibited a significantly higher prevalence of moderate-to-high psychosocial effects. The pain scores differed markedly between the two groups: the moderate-to-high impact group had a mean score of 6.890 $\pm$ 1.420, whereas the low-impact group had a mean score of 4.210 $\pm$ 1.360.

Table 2: Comparison of psychological and social impact scores according to ulcer severity

Outcome variable	Mild ulcers n=46 Mean $\pm$ SD	Moderate ulcers n=72 Mean $\pm$ SD	Severe ulcers n=32 Mean $\pm$ SD	Test value	p value
Stress score	10.260 $\pm$ 4.180	15.480 $\pm$ 5.220	21.340 $\pm$ 5.760	F = 37.826	<0.001*
Anxiety score	8.740 $\pm$ 3.960	13.120 $\pm$ 4.640	18.280 $\pm$ 5.140	F = 34.915	<0.001*
Depression score	7.980 $\pm$ 3.720	11.640 $\pm$ 4.460	15.970 $\pm$ 5.320	F = 24.638	<0.001*
Oral health impact score	13.520 $\pm$ 5.410	22.680 $\pm$ 6.280	33.460 $\pm$ 7.120	F = 92.574	<0.001*
Social limitation score	4.180 $\pm$ 2.060	7.640 $\pm$ 2.880	11.520 $\pm$ 3.240	F = 62.418	<0.001*
Sleep disturbance score	2.360 $\pm$ 1.420	4.180 $\pm$ 1.860	6.090 $\pm$ 2.140	F = 38.207	<0.001*
Total psychosocial impact score	46.820 $\pm$ 12.740	74.720 $\pm$ 15.860	106.660 $\pm$ 18.920	F = 124.318	<0.001*

* Significant.

As the severity of the ulcer worsened, the scores for psychological and social impact rose dramatically, as seen in Table 2. People with severe ulcers received the highest average scores for stress, anxiety, depression, oral health impact, social limitation, sleep disturbance, and total psychosocial impact. The average overall psychosocial effect score rose from 46.820 ± 12.740 for mild ulcers to 74.720 ± 15.860 for moderate ulcers and 106.660 ± 18.920 for severe ulcers. The difference was statistically significant, with $F = 124.318$ and $p < 0.001$. This means that the severity of the ulcers had a big effect on the mental and social health of young adults. In general, recurrent aphthous ulcers had a noticeable negative impact on the social and mental health of young adults. The effect was not correlated with age or gender; however, it was significantly associated with clinical severity, recurrence frequency, ulcer count, pain intensity, episode duration, and functional impairments, including difficulties with eating and speaking. Individuals experiencing severe and recurrent ulcers exhibited elevated levels of stress, anxiety, social constraints, sleep disturbances, and diminished oral health-related quality of life.

Discussion

The current study shows that recurring aphthous ulcers significantly affected the psychological and social well-being of young adults. Individuals with recurring ulcers exhibited elevated ratings in stress, anxiety, and depressed symptoms compared to those without ulcers. This study supports the perspective that recurrent aphthous ulcers constitute not merely a localised oral mucosal issue but also a condition influenced by emotional and behavioural determinants. Previous research has indicated that psychological stress may elevate the incidence, duration, and discomfort associated with recurrent aphthous stomatitis [10–13].

The correlation may be explained by stress-induced immunological modifications, changed pain perception, and shifts in oral habits during emotionally taxing intervals. The current findings indicate that the oral health-related quality of life was diminished in persons with recurrent aphthous ulcers. This was primarily manifested through pain, challenges in consuming spicy or hard foods, discomfort while speaking, and diminished social confidence during active ulcer episodes. Hapa et al. have made similar observations, finding that recurrent aphthous stomatitis worsened quality of life among affected individuals [14]. Sherman et al. demonstrated that aphthous ulcer pain disrupts everyday activities, with this disruption more closely associated with psychological factors than with clinical ulcer size alone [15]. This corroborates the current conclusion that pain severity and ulcer frequency are substantially associated with diminished psychosocial scores.

The current study showed that increased ulcer frequency and prolonged duration correlated with elevated stress and anxiety ratings. This aligns with the findings of Huling et al., who indicated that stressful life events were associated with the start and duration of recurrent aphthous stomatitis [16]. Dhopte et al. similarly found that patients with recurrent aphthous stomatitis had higher levels of psychological discomfort when they used validated psychometric measures [17]. Wiriyakijja et al. also confirmed the validity of HADS and PSS-10 for patients with recurrent aphthous stomatitis, highlighting the need for psychological evaluation in this cohort [18]. These results indicate that young adults with recurrent ulcers should be evaluated not just for oral manifestations but also for stress-related underlying causes. The societal impact noted in this study is very significant. Young adults may experience embarrassment when conversing, dining in groups, or attending college and work during painful ulcer episodes. This could make people less confident and less likely to join in on social activities. Ajmal et al. demonstrated a significant correlation between recurring aphthous stomatitis and psychological stress among dentistry students [19]. Studies measuring salivary cortisol in recurrent aphthous stomatitis confirmed similar stress-induced physiologic alterations [20,21]. Quality-of-life research on oral mucosal disorders has demonstrated that discomfort and visible or recurrent oral lesions can affect mental health and social ease [22,23]. So, management should include calming the person down, finding out what causes their suffering, controlling their pain, and giving them basic stress counselling if they require it.

Conclusion

Recurrent aphthous ulcers significantly affected the psychological and social well-being of young people. Individuals with frequent, painful, numerous, and persistent ulcers exhibited elevated levels of stress, anxiety, social limitations, sleep disturbances, and diminished oral health-related quality of life. There was no significant link between age and gender and psychosocial impact. So, treating recurring aphthous ulcers should involve both dental treatment and care for mental and social health.

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