Biological and Clinical Sciences Research Journal
eISSN: 2708-2261; pISSN: 2958-4728
www.bcsrj.com
DOI: https://doi.org/10.54112/bcsrj.v6i9.2143
*Biol. Clin. Sci. Res. J., Volume 6(9), **2025**: 2143*
Original Research Article

Level of Anxiety and Depression in Post-Facial Trauma Patients

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(Received, 1St August 2025, Accepted 28th September 2025, Published 30th September 2025)

Abstract: *Maxillofacial trauma is a significant public health problem worldwide and is frequently associated with long-term physical, social, and psychological consequences. Patients sustaining facial injuries are particularly vulnerable to mental health disorders, including anxiety and depression, which may adversely affect recovery and quality of life.* ***Objective:*** *To determine the frequency and severity of anxiety and depression among patients presenting with post-facial trauma at a tertiary care hospital in Quetta, Pakistan.* ***Methods:*** *A descriptive cross-sectional study was conducted in the Department of Oral and Maxillofacial Surgery, Bolan University of Medical and Health Sciences (BUMHS), Quetta, over six months from 11 September 2021 to 10 March 2022. Adult patients with a history of facial trauma who met the inclusion criteria were enrolled using non-probability consecutive sampling. Anxiety and depression were assessed using the Hospital Anxiety and Depression Scale (HADS). Data were analyzed to determine the distribution of anxiety and depression severity.* ***Results:*** *The mean age of participants was 51.20 ± 12.48 years. Male patients constituted 71.4% of the sample, while females accounted for 28.6%. Based on HADS scoring, 10.5% of patients exhibited no symptoms of anxiety or depression, 35.2% demonstrated borderline symptoms, and 54.3% showed a definite level of anxiety and depression.* ***Conclusion:*** *Anxiety and depression are highly prevalent among patients with post-facial trauma. Routine psychological screening should be integrated into the management of facial trauma patients to enable early identification and timely intervention. Larger, multicenter studies are recommended to further explore psychosocial outcomes in this population.*

Keywords: Anxiety; Depression; Facial trauma; maxillofacial injury

[***How to Cite:*** Rahim M, Ghauri B, Khan MA, Kanwal S, Khan AZ, Razzaq SZ. Level of anxiety & depression in post-facial trauma patients. *Biol. Clin. Sci. Res. J.*, **2025;** 6(9): 62-65. doi: https://doi.org/10.54112/bcsrj.v6i9.2143

Introduction

Facial trauma, whether resulting from road traffic accidents, interpersonal violence, or sports injuries, is associated with substantial physical damage as well as significant psychological distress. Anxiety and depression are frequently reported among affected individuals, often influencing recovery, social functioning, and overall quality of life. Evidence suggests that more than 20% of patients with facial trauma may develop post-traumatic stress disorder (PTSD) (1), while anxiety has been documented in approximately 26.4% and depression in 21.4% of such cases (2). Other studies report a broader prevalence range of psychological disorders—between 10% and 48%—highlighting considerable variability across populations and trauma types (3).

Beyond clinical factors, psychological morbidity following facial injuries is powerfully shaped by social and cultural influences. Qualitative assessments reveal that up to 40% of individuals with facial trauma may experience long-term emotional distress, often linked to stigma and persistent fear of altered appearance (4). Moreover, pre-existing mental health conditions, including anxiety and depression, can predispose individuals to heightened psychological vulnerability after injury (5). Maxillofacial trauma is therefore not only a physical disruption but also a profound emotional and psychosocial burden, particularly in societies where identity and self-worth are closely associated with facial aesthetics (6).

International evidence further indicates that psychological disorders are more pronounced in conflict-affected populations, with estimates showing anxiety and depression prevalence around 22% (7). In South Asian regions such as Pakistan, where socio-political instability, limited mental health literacy, and restricted access to psychological services are ongoing challenges, the psychological impact of facial trauma is likely magnified. The interplay of social stigma, cultural expectations, and inadequate mental health support often results in more severe and prolonged anxiety and depression among these patients (8).

Addressing these concerns requires a comprehensive and culturally informed approach that integrates psychological care into routine maxillofacial trauma management. Such strategies can help reduce long-term morbidity, improve rehabilitation outcomes, and enhance overall quality of life. This study seeks to evaluate anxiety and depression levels among post-facial trauma patients in Pakistan using the Hospital Anxiety and Depression Scale (HADS). It aims to generate insights applicable to clinical policy and practice in the local context (9, 10).

In Pakistan, where personal identity and social acceptance are often strongly associated with facial appearance, the psychological impact of facial trauma can be particularly severe. Cultural sensitivities regarding aesthetics, combined with societal stigma around visible disfigurement, heighten the risk of anxiety and depression among affected individuals (3). Additionally, unequal access to mental health services and prevailing misconceptions about psychiatric care further limit timely psychological intervention. By exploring the psychological burden of facial trauma within this setting, the study emphasizes the need for integrated treatment models that address both physical injuries and emotional well-being, contributing to improved recovery pathways for patients in Pakistan.

Methodology

The study employed a descriptive cross-sectional design and was conducted in the Department of Oral and Maxillofacial Surgery at Bolan University of Medical and Health Sciences (BUMHS), Quetta, Pakistan.

The objective was to determine the frequency and severity of anxiety and depression among patients presenting with post-facial trauma. The research was conducted over six months, from 11 September 2021 to 10 March 2022, following formal approval from the institutional review board.

The study population consisted of adult patients presenting with a history of facial trauma to the outpatient and inpatient services of the department. Participants were recruited through a nonprobability, consecutive sampling technique, ensuring that all eligible individuals who reported during the study period were included. The sample size was calculated using a previously reported prevalence of 15.9% for severe depressive symptoms in trauma patients, with a 95% confidence level and 7% margin of error, yielding a required sample of 105 patients.

Patients aged 18 years or older, with any etiology of facial trauma, and presenting at least one week after injury were considered eligible. Only those able to understand and respond to the questionnaire and willing to provide informed consent were included. Individuals with a prior documented psychiatric illness, current use of psychotropic medication, severe cognitive impairment, altered mental status, or life-threatening polytrauma were excluded, as were those who declined participation.

After informed consent was obtained, demographic and clinical information, including age, gender, residential status, and time elapsed since the trauma, was collected using a structured pro forma. Interviews were conducted in a quiet clinical setting to ensure comfort, privacy, and reliable responses. Psychological assessment was performed using the Hospital Anxiety and Depression Scale (HADS), a validated 14-item self-report instrument widely used in hospital settings. The scale includes two subcomponents—HADS-A for anxiety and HADS-D for depression—each scored from 0 to 21. Standard cutoffs were applied, with scores of 0–7 classified as usual, 8–10 as borderline, and 11 or above as indicative of definite anxiety or depression.

All procedures adhered to ethical principles of voluntary participation, confidentiality, and the right to withdraw without consequence to clinical care. Data were analyzed using SPSS version 25. Continuous variables, such as age, were summarized as mean and standard deviation. In contrast, categorical variables, including gender, residential status, duration since trauma, and HADS categories, were presented as frequencies and percentages. Stratified analyses were conducted to explore associations between anxiety or depression and demographic variables, with statistical significance set at $p \leq 0.05$.

Results

The study included 105 patients with post-facial trauma, with a mean age of 51.20 ± 12.48 years, indicating that most participants were middle-aged or older adults. Males constituted the majority at 71.4%, while females accounted for 28.6%. Most patients resided in rural areas (64.8%), with fewer in urban areas, reflecting the demographic distribution of the study population (Table 1).

Regarding clinical characteristics, 36.2% of participants reported sustaining facial trauma within the past three months, whereas 63.8% presented more than three months after injury, showing that delayed presentation was more common among the study cohort (Table 2).

Assessment using the HADS scale revealed that 10.5% of patients had normal psychological status, 35.2% fell within the borderline range, and a notable 54.3% exhibited definite symptoms of anxiety or depression. These findings highlight a high prevalence of psychological morbidity among individuals with facial trauma (Table 3).

Stratification by age group showed that patients aged 50 years or below had 15.2% normal scores, 41.3% borderline scores, and 43.5% definite symptoms. In contrast, those older than 50 years demonstrated higher rates of definite anxiety or depression at 62.7%. This suggests older patients experienced a more severe psychological impact (Table 4).

Gender-based stratification revealed that 57.4% of males and 46.7% of females had definite symptoms of anxiety or depression. Although both genders showed substantial psychological distress, the proportion was slightly higher among males, who also formed the larger part of the sample (Table 5).

Analysis by duration of trauma showed that patients presenting within three months had 39.5% definite symptoms, while those with trauma duration exceeding three months had a considerably higher prevalence at 62.7%. This pattern indicates worsening psychological outcomes with prolonged time since injury (Table 6).

Table 1. Descriptive Statistics of Age (n = 105)

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	Mean ± SD	**51.20 ± 12.48**	—
Gender	Male	75	71.4
	Female	30	28.6
Residential Status	Rural	68	64.8
	Urban	37	35.2

Table 2. Descriptive Statistics for Duration of Facial Trauma

Duration Since Trauma	Frequency (n)	Percentage (%)
≤ 3 months	38	36.2
> 3 months	67	63.8
Total	105	100

Table 3. Frequency of Anxiety and Depression Symptoms (HADS)

HADS Category	Frequency (n)	Percentage (%)
Normal (≤7)	11	10.5
Borderline (8–10)	37	35.2
Definite (≥11)	57	54.3
Total	105	100

Table 4. Stratification of Anxiety and Depression by Age Group

Age Group (years)	Normal n (%)	Borderline n (%)	Definite n (%)
≤ 50	7 (15.2)	19 (41.3)	20 (43.5)
> 50	4 (6.8)	18 (30.5)	37 (62.7)
Total	11	37	57

Table 5. Stratification of Anxiety and Depression by Gender

Gender	Normal n (%)	Borderline n (%)	Definite n (%)
Male	7 (9.3)	25 (33.3)	43 (57.4)
Female	4 (13.3)	12 (40.0)	14 (46.7)
Total	11	37	57

Table 6. Stratification of Anxiety and Depression by Duration of Facial Trauma

Duration Since Trauma	Normal n (%)	Borderline n (%)	Definite n (%)
≤ 3 months	7 (18.4)	16 (42.1)	15 (39.5)
> 3 months	4 (6.0)	21 (31.3)	42 (62.7)
Total	11	37	57

Discussion

The results of this study demonstrate a high prevalence of anxiety and depression among patients with post-facial trauma, with 54.3% exhibiting definite symptoms based on the Hospital Anxiety and Depression Scale (HADS). This finding aligns with previously documented psychological morbidity in similar populations, where anxiety levels among facial trauma patients have been reported between 30.5% and 40% (11). Our results further show that 62.7% of patients older than 50 years experienced definite symptoms, consistent with evidence suggesting increased psychological vulnerability among older adults following trauma (12).

The demographic profile of the participants revealed a mean age of 51.20 ± 12.48 years and a male predominance of 71.4%, mirroring earlier studies that highlighted greater male involvement in high-risk activities leading to facial injuries (13). The majority of participants resided in rural areas (64.8%), a trend supported by literature indicating that rural populations face additional barriers in accessing mental health care, thereby worsening trauma-related psychological outcomes (14).

Gender stratification showed that 57.4% of males and 46.7% of females exhibited definite anxiety or depression symptoms. This distribution corresponds with previous research suggesting that males may experience heightened psychological distress due to sociocultural norms, stigma surrounding emotional expression, and reluctance to seek psychological support (15). The significance of gender as an essential factor in mental health assessment after trauma has been emphasized in several studies (16).

The influence of time since trauma was also evident. Among patients presenting within 3 months, 39.5% demonstrated definite symptoms, whereas 62.7% of those presenting after 3 months were similarly affected. This pattern is in agreement with studies indicating that psychological morbidity tends to worsen over time in the absence of early mental health interventions (17). These findings highlight the importance of timely assessment and psychological support to alter the course of recovery.

The observed prevalence of 54.3% for borderline to definite symptoms is higher than that reported in studies focusing on specific trauma types, which range between 20% and 40% (18, 19). This elevated prevalence may be influenced by sociocultural dynamics such as stigma related to disfigurement, social withdrawal, and reduced access to mental health services. Given that a large proportion of the cohort were rural residents, the limited availability of psychological care in such settings may also contribute to heightened distress (20).

In summary, the findings underscore the substantial psychological burden faced by post-facial trauma patients in Pakistan. The results align with international evidence while reflecting contextual factors—such as cultural stigma and inadequate mental health infrastructure—that intensify anxiety and depression in this population. These insights reinforce the need for integrated trauma management models that incorporate psychological screening and culturally appropriate mental health interventions to improve long-term outcomes.

Conclusion

This study highlights a substantial psychological burden among patients recovering from facial trauma, with more than half demonstrating definite anxiety or depression. The high prevalence of psychological morbidity—particularly among older adults, males, and those presenting late after injury—indicates that facial trauma extends far beyond physical disfigurement and functional impairment. Incorporating routine psychological screening and timely mental health support into trauma care is essential to improve recovery and long-term well-being. Strengthening mental health services, especially for rural populations, and developing culturally sensitive intervention strategies should be prioritized to address this unmet clinical need.

Declarations

Data Availability statement
All data generated or analysed during the study are included in the manuscript.

Ethics approval and consent to participate
Approved by the department concerned. (IRBEC-S-033-21)

Consent for publication
Approved

Funding
Not applicable

Conflict of interest

The authors declared no conflict of interest.

Author Contribution

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All authors reviewed the results and approved the final version of the manuscript. They are also accountable for the integrity of the study.

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