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Original Article

Anxiety and depression among adult patients with facial injury in a Nigerian Teaching Hospital

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ABSTRACT

Background: Trauma to the face often causes varying degrees of cosmetic blemish for the patients. This can affect the psychological and social constitutions of such patients. **Aim:** The study investigated the pattern of post trauma anxiety and depression disturbance among patients in the maxillofacial unit of the University of Uyo Teaching Hospital, Nigeria. **Methods:** A 12-month prospective study of post trauma psychological disorders among patients who had accidental facial trauma is presented. The study was conducted on 121 patients (males and females) attending the outpatient clinic. The Hospital Anxiety and Depression Scale (HADS), a self-assessment questionnaire was used for the study. **Result:** A total of 121 patients were studied. There were 75 males and 46 females, giving a male to female ratio of 1.6:1. The age range varied between 18 and 77 years and the mean age was 38.36±14.86 years. Eighty- five (70%) of the patients showed no features of depression. Twenty-four (20%) had probable depression. Eighty-six (71%) patients scored 7 points or less on the anxiety subscale of the HADS, denoting absence of anxiety, while 25 (21%) scored more than 11 points which connotes probable anxiety. More females had probable anxiety and depression profiles than males, and this relationship was statistically significant (p = 0.003). Probable depression and anxiety were higher among the singles and the employed, showing that depression and anxiety were significantly influenced by employment status (*P* = 0.001). **Conclusion:** Facial trauma produces psychological complaints with female gender, marital status, and employment being the risk factors.

Key words: Face, trauma, depression, anxiety, disturbance, HADS

INTRODUCTION

The human face is a vital component of one's personality and body image and a visible disfigurement can have a significant psychological impact upon the individual concerned.[1] Post-traumatic stress disorder symptoms produced by anxiety and depression have adverse effects on body image, quality of life, and self-esteem of the patient and it is often difficult to predict the

course of adaptation in many of the patients.[2] It is important, therefore, that the surgeon be aware that the outcome of his work is determined not only by his surgical skills but also by a range of social and psychological factors.[3]

Two forms of post-traumatic facial disfigurement are possible during adulthood. They include facial disfigurements from traumatic injuries and iatrogenic disfigurements following operative procedures to the face. This study is focused on facial disfigurements from traumatic injuries. Post-traumatic stress disorder, manifesting as anxiety and depression, have been reported in 10-70% of patients after facial trauma.[4-7] The level of post-traumatic stress disorder is reported to be lower in patients with already existing facial pathology as cancer, than in patients with traumatic facial injuries.[8,9] A wide range of factors such as the nature of social support available to the patients, presence of pre-existing psychological disorders, substance abuse, the extent of post operative pain and post operative fatigue, are thought to influence psychological adjustments to facial trauma.[10]

The aim of this study was to investigate the pattern of post trauma psychological disturbance among adult facial injury patients in our hospital.

METHODOLOGY

A prospective prevalence study of anxiety and depressive disorders among adult patients with traumatic facial injuries at the University of Uyo Teaching Hospital, Uyo, Nigeria, was carried out over a period of one year, from March 2012 to February 2013. Subjects were adult patients who sustained traumatic facial injuries. Patients under the age of 18 years and those with facial burns were excluded from the study. Also, patients with language difficulties and those who required help to complete the psychometric questionnaires were excluded from the study.

All the patients were stable enough to give informed consent and to complete the psychometric questionnaire during a follow up visit to the maxillofacial outpatient clinic. The Hospital Anxiety and Depression Scale (HADS) was administered on the patients. The HADS is a suitable measure of psychological distress in people who are physically ill, because it is rarely influenced by symptoms of physical illness.[11,12] The patients were graded on the psychometric scale with scores of 0-7 indicating no anxiety or depression, 8-10 indicating borderline anxiety or depression and scores greater or equal to 11 indicating probable anxiety or depression. The age, gender, marital status, and employment status were also recorded in each patient.

Statistical analysis

Data was analysed using the SPSS 16.0 statistical software. Frequency distributions were generated for all categorical variables. Numeric variables were assessed using student's t–test, and chi-squared test used for categorical variables. *P*-value < 0.05 was considered statistically significant.

RESULTS

A total of 121 patients were studied. There were 75 males and 46 females, giving a male to female ratio of 1.6:1. The age range of patients was 18-77years with a mean age of 38±14.86years (Table 1). 56.2% of the study population were young people between the ages of 18 and 37 years. 44% of the patients were single, 30% married, 20% divorced and 6% were widowed. 60% of the patients were unemployed while 40% were in various employments.

Table 1: Age distribution of the subjects (mean= 38 years)

Age (Years)	Frequency	Percentage (%)
18-27	37	30.58
28-37	31	25.62
38-47	20	16.53
48-57	16	13.22
58-67	12	9.92
68-77	5	4.13
Total	121	100

The most common form of facial trauma was bony injury accounting for 45% of the

injuries. Facial trauma involving soft tissue injury was 35%, while 20% were both bony and soft tissue injuries (Table 2).

Table 2: Nature of Injury

Injury type	Frequency	Percentage (%)
Soft tissue injury	42	35
Bone injury	55	45
Soft tissue + bone injury	24	20
Total	121	100

Table 3 shows the HADS profile of the patients cross-tabulated against gender. There was no depression in 70% of cases and no anxiety in 71% of the cases following traumatic facial injuries. 20% and 21% were found to have probable depression and probable anxiety, respectively. 8% and 10% had borderline status for anxiety and depression, respectively. 32.61% of the females had probable anxiety and depression scores, while 12% and 13% of males had probable depression and anxiety scores, respectively. The chi-square value for the depression subset of the HADS profile was 11.66 with a p-value of 0.003. The chi-square value for the anxiety subset was 13.20 with a *P*-value of 0.001. The relationship between gender and the anxiety-depression scores on the HADS scale was statistically significant.

Slightly over forty eight percent (48.75%) of single patients, 16.67% of the married, 2.08% of the divorced and 42.86% of the widowed had probable depression scores on the HADS profile. 14.81% of the singles, 5.56% of the married, 12.5% of the divorced and 14.29% of the widowed had probable anxiety scores on the HADS profile. These were found statistically significant at *P*-value of 0.009 (table 4). 53.33% of the employed and 24.66% of the unemployed had probable depression score on the HADS profile. 35.42% of the employed and 4.11% of the unemployed had probable anxiety score on the HADS profile. These were also statistically significant at *P*-value of 0.001 (Table 5).

Table 3: HADS Profile cross tabulation against gender

HADS Profile	Total (%)	Male (%)	Female (%)
No depression	85 (70)	61 (81.33)	24 (52.17)
Borderline depression	12 (10)	5 (6.67)	7 (15.22)
Probable depression	24 (20)	9 (12)	15 (32.61)
Total	121 (100)	75 (100)	46 (100)
No anxiety	86 (71)	62 (82.67)	24 (52.17)
Borderline anxiety	10 (8)	3 (4)	7 (15.22)
Probable anxiety	25 (21)	10 (13)	15 (32.61)
Total	121 (100)	75 (100)	46 (100)

Psychometric Score: 0-7=No depression or anxiety; 8-10= Borderline depression or anxiety; ≥ 11= Probable depression or anxiety (Depression: X^2 = 11.66, df= 2, *P*= 0.003; Anxiety: X^2= 13.2, df= 2, *P*= 0.001)

DISCUSSION

The majority of studies of patients who have sustained facial injuries have focused on evaluating surgical interventions and medical outcomes.[7] Although it is well recognized that changes in facial appearance due to injury can cause problems with adjustment and adaptation, relatively few studies have evaluated psychological status following maxillofacial trauma.[8]The present study showed that a significant number of patients achieved scores suggestive of either depression or anxiety state. 30% of the patients achieved scores that was suggestive of depressive disorders and 29% had scores suggestive of anxiety state. These findings are in contrast with those reported in the literature.For instance, documented rates of anxiety in the early period after maxillofacial trauma ranged from 11.5-15%.[13,14]Similarly, rates of depression after facial trauma have been reported to be 8-13%.[13]

Table 4: HADS profile according to marital status

HADS Profile	Married (%)	Single (%)	Divorced (%)	Widow/Widower (%)
No depression	9 (25)	17 (31.48)	11 (45.83)	2 (28.57)
Borderline depression	21 (58.33)	11 (20.37)	8 (33.33)	2 (28.57)
Probable depression	6 (16.67)	26 (48.75)	5 (2.08)	3 (42.86)
Total	36 (100)	54 (100)	24 (100)	7 (14.29)
No anxiety	16 (25)	33 (66.11)	10 (41.67)	1 (14.29)
Borderline anxiety	18 (44.44)	13 (24.07)	11 (45.83)	5 (71.43)
Probable anxiety	2 (5.56)	8 (14.81)	3 (12.50)	1 (14.29)
Total	36 (100)	54 (100)	24 (100)	7 (100)

Psychometric Score: 0-7=No depression or anxiety; 8-10= Borderline depression or anxiety; ≥ 11= Probable depression or anxiety (X^2 =30.79, df =15, *P*-Value= 0.009)

Table 5: HADS profile according to employment status

HADS Profile	Employed (%)	Unemployed (%)
No depression	5 (10.42)	36 (49.321)
Borderline depression	15 (31.25)	19 (26.03)
Probable depression	28 (58.33)	18 (24.66)
Total	48 (100)	73 (100)
No anxiety	11 (22.92)	59 (80.82)
Borderline anxiety	20 (41.66)	11 (15.07)
Probable anxiety	17 (35.42)	3 (4.11)
Total	48 (100)	73 (100)

Psychometric Score: 0-7=No depression or anxiety;8-10= Borderline depression or anxiety;≥ 11= Probable depression or anxiety X^2 = 41.95, df= 2, *P*-Value= 0.001)

The study showed that gender is strongly related to anxiety and depression with the females having a higher percentage of anxiety and depression. This is consistent with previous studies by Lloyd *et al.*[15] and XU *et al.*[16]This is probably because women are believed to express greater emotions than men.[17]

Concerning the marital status, it was observed that the married were more depressed whereas the widow/widower had higher anxiety HADS profile than the rest of the study population. This finding in our study was statistically significant. A possible explanation could be because the married show more emotional expression. The widow/widower on the other hand showed more anxiety expression probably because they lack companion to share their emotional trauma. These findings are in agreement with that by Everson *et al.*,[18] supporting the view that loneliness is a risk factor for depression and anxiety disorders while marriage and companionship is needed to avert depression and anxiety.[18]

The finding of greater depression among the employed in this study may be an aftermath of the thought of getting back to work. Getting back to work after facial injury and disfigurement may be a major concern for the patient. The awareness of facial blemish by the patient is capable of reducing the self esteem of such a patient as well as his/her enthusiasm to go back to work. This state of affairs can trigger depressive symptoms in the patient. This lends credence to the

growing body of literature suggesting the importance of identifying and treating depression in facially injured patients.[19]Depression and anxiety in facial injuries come with worries and length of treatment and recovery.[20] Patients with facial injuries may express unhappiness due to facial appearance after facial trauma leading to social isolation.[21]

Literature review revealed that most on the study of the psychological effects of traumatic injuries focused on delayed psychological reactions, particularly post-traumatic stress disorder (PTSD).[22] Interestingly, there would appear to be considerable variations in the PTSD rate published in the literature with studies reporting prevalence of ranging from 1.9% to 33% 12 months after trauma.[22,23] About 20% to 30% of adults with maxillofacial injuries have been reported to have symptoms of PTSD.[5,6,7]

The development of post-trauma psychological symptoms is complex and is dependent on subjective vulnerability factors in the patient combined with factors related to the trauma itself.[24] Some facial trauma studies have found that the degree of anxiety is directly proportional to the magnitude of injury and the scar it leaves.[25,26] Other studies have indicated that the patients' perception of their facial disfigurement is an important factor in the development of depressive and anxiety symptoms.[25] Female gender, permanent scar, advancing age, chronic pain from injury, and past psychiatric history can all increase the likelihood of psychological sequelae following facial injury.[5,25]

This study suggests that there is anxiety and depressive responses to facial trauma and so such symptoms among facial trauma patients may be an important target for intervention. Studies have indicated that the patients' perception of their facial disfigurement is an important factor in the development of depressive and anxiety symptoms.[26] Hulbert-Williams *et al.*[27]imply that sufferers of larger injuries experience greater levels of anxiety when compared to those who have smaller injuries. In contrast Tebble *et al.*[25] argue that injuries, irrespective of the size, can have psychological implications for the patient. Fauerbach *et al.* emphasizing on the need to assess, identify and treat psychological issues stated that psychological needs delay the rate of recovery of both physical and psychological health and function.[28]

CONCLUSION

Facial trauma produces anxiety and depressive complaints in one of every five patients. Female gender, marital status, and employment are risk factors for post trauma psychological disorders among facial injury patients. It is thus important to identify and manage psychological disorders associated with maxillofacial trauma in patients.

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