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Original Research

Anxiety and Depression in Facial Injuries: A Comparative Study

N T Prashanth[1], H P Raghuveer[2], Dilip Kumar[3], E S Shobha[3], Vinod Rangan[4], T S S Rao[5]

Contributors:

[1]Associate Professor, Department of Oral and Maxillofacial Surgery, Dayananda Sagar College of Dental Sciences, Bengaluru, Karnataka, India; [2]Dean & Professor and Head, Department of Oral and Maxillofacial Surgery, Dayananda Sagar College of Dental Sciences, Bengaluru, Karnataka, India; [3]Professor, Department of Oral and Maxillofacial Surgery, Dayananda Sagar College of Dental Sciences, Bengaluru, Karnataka, India; [4]Assistant Professor, Department of Oral and Maxillofacial Surgery, Dayananda Sagar College of Dental Sciences, Bengaluru, Karnataka, India; [5]Professor and Head, Department of Psychiatry, JSS Medical College, Mysore, Karnataka, India.

Correspondence:

Dr. Prashanth NT. Department of Oral and Maxillofacial Surgery, Dayananda Sagar College of Dental Sciences, S.M. Hills, Kumaraswamy Layout, Bengaluru - 560 078, Karnataka, India. Tel.: +91-080-26663654. Fax: +91-080-26663654. Email: dr.n.t.prashanth@gmail.com

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Abstract:

Background: This study was performed to identify the presence of anxiety and depression in patients who had sustained facial injuries; additionally we aimed to identify other variables that may modify the psychological response to trauma that include gender and age.

Materials and Methods: The participants were 153 patients from multimodal trauma centers in Bangalore city who sustained disfiguring facial injuries were taken up. Of the 153 patients, 81 patients were male (51 less than 50 years of age and 30 more than 50 years of age) and 72 patients were female (40 less than 50 years of age and 32 more than 50 years of age) and 111 patients with non-disfiguring facial injuries out of which 54 were male patients and 57 were female patients. The assessments were carried out at 3 time intervals (the date of discharge [DOD], 1-month post-operatively and 6 months post-operatively) of the follow-up. The hospital anxiety and depression scale (HADS) was used to assess the anxiety and depression of the facial trauma patients.

Results: Statistically significant higher means of HADS both for anxiety and depression were present in patients with disfiguring facial injuries compared to non-disfiguring facial injuries, female patients compared to male patients after the 1-month and 6 months post-operatively, the mean anxiety and depression scores of males and female patients were significantly higher for those who aged less than 50 years compared to those who aged more than 50 years.

Conclusion: The results of this study led to the conclusion that in comparison with patients who had facial disfiguring injuries and non-disfiguring facial injuries, the mean HADS scores were significantly higher in the disfiguring facial injury patient. This indicates increased Anxiety and Depression levels and this was observed at all three study intervals (DOD, 1-month and 6 months post-operatively). The HADS was higher in female patients who were lesser than 50 years age compared to male patients of the same age group, which implies higher anxiety and depression levels.

Key Words: Anxiety, depression, maxillo-facial injuries, facial injuries

Introduction

The face or countenance plays an important part in the formation of initial social relationships, and the appearance or "attractiveness" of a person is greatly contributed by the face.[1]

The disfigurement of the face is secondarily by numerous causes; however trauma to the face is the major cause for disfigurement.

Bony and soft tissue injuries that are extensive can lead to scarring and/or disfigurement of the face. A common sequelae of trauma to the facial injury patients are the psychological distress it causes, hospital care of the facial trauma patients has progressed significantly over the last few decades and recent research has focused on the psychological aspects of the traumatic events.

Military veterans and disaster survivors are our primary knowledge of the psychological impact of traumatic events.[2] Maxillofacial trauma was recognized as important for research because of its potential for both physical and psychological disability.[3]

Poor documentation in routine clinical practice of the psychological impact of facial trauma patient leads to under-recognition and non-treatment of an important morbidity that arises post-trauma and can become chronic.

There has been published literature suggesting post-traumatic stress disorder (PTSD) may develop, the PTSD of facial trauma patients documented range between 26% and 41%.[1,4-6]

Anxiety is an emotion characterized by an state of unpleasantness and of inner turmoil, it is accompanied by nervous behavior, such as pacing back and forth, somatic complaints and rumination.[7] There are subjective unpleasant feelings of dread over anticipated events, such as the feeling of imminent death.[8] Anxiety is not the same as fear that is a response to a real or perceived immediate threat, whereas anxiety is the expectation of future threat.[9] Anxiety is a feeling of fear, worry, and uneasiness, usually generalized and unfocused as

an overreaction to a situation that is only subjectively seen as menacing. There are muscular tension, restlessness, fatigue and problems in concentration. Anxiety can be appropriate, but when experienced regularly the individual may suffer from an anxiety disorder.

Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behavior, feelings and sense of well-being.[10,11] People with depressed mood can feel sad, anxious, empty, hopeless, helpless, worthless, guilty, irritable, ashamed, or restless. They may lose interest in activities that were once pleasurable, experience loss of appetite or overeating, have problems concentrating, remembering details or making decisions, and may contemplate, attempt or commit suicide. Insomnia, excessive sleeping, fatigue, aches, pains, digestive problems, or reduced energy may also be present.[12]

The aim of the study was to identify the presence of anxiety and depression in patients who had sustained facial injuries; in addition, we aimed to identify other variables that may modify the psychological response to trauma that include gender and age.

The inclusion criteria for the patients in the study are as follows:
1. Age – 18 years or older
2. Glasgow coma scale on admission of 12 and above
3. Patients with facial injuries leading to scarring of 3 cm or more
4. Patients with facial injuries leading to facial disfigurement/asymmetry post-treatment.
5. Patients who had sustained non-disfiguring facial injuries.

The exclusion criteria are as follows:
1. Patients with a history of alcohol dependence.
2. Patients with past history of psychological disturbances.

The participants were 153 patients from multimodal trauma centers in Bangalore city who sustained disfiguring facial injuries were taken up. Of the 153 patients, 81 patients were male (51 less than 50 years of age and 30 more than 50 years of age) and 72 patients were female (40 less than 50 years of age and 32 more than 50 years of age) and 111 patients with non-disfiguring facial injuries out of which 54 were male patients and 57 were female patients.

The assessments were carried out at three-time intervals (the date of discharge [DOD, 1-month post-operatively and 6 months post-operatively) of the follow-up.

The hospital anxiety and depression scale (HADS) was used to assess the anxiety and depression of the facial trauma patients. It is a widely used, valid and reliable scale and provides for a low-cost short self-report measurement to detect anxiety and depression.

HADS was originally developed by Zigmond and Snaith (1983) and is commonly used by doctors to determine the levels of anxiety and depression that a patient is experiencing.[13] The HADS is a fourteen item scale that generates ordinal data. Seven of the items relate to anxiety and seven relate to depression.

The items on the questionnaire that relate to anxiety are:
- I feel tense or wound up
- I get a sort of frightened feeling as if something bad is about to happen
- Worrying thoughts go through my mind
- I can sit at ease and feel relaxed
- I get a sort of frightened feeling like butterflies in the stomach
- I feel restless and have to be on the move
- I get sudden feelings of panic.

The items that relate to depression are:
- I still enjoy the things I used to enjoy
- I can laugh and see the funny side of things
- I feel cheerful
- I feel as if I am slowed down
- I have lost interest in my appearance
- I look forward with enjoyment to things
- I can enjoy a good book or radio or TV program.

Each item on the questionnaire is scored from 0 to 3 and this means that a person can score between 0 and 21 for either anxiety or depression. The HADS uses a scale and therefore the data returned from the HADS is ordinal.

Score consequence:
0-7 = Normal
8-10 = Borderline abnormal.

Instruments

The English and Kannada version of HADS questionnaire to evaluate for anxiety and depression was employed.

Statistical analysis

The statistical analysis was performed by Mann–Whitney U-test for determining and comparing the impact of event scores among the patients and the following results were obtained.

Discussion on the finding of the study

This study assessed the presence of anxiety and depression in 153 patients who had sustained facial injuries that led to disfigurement and scarring after the treatment.

The result of the statistical analysis was done with Mann–Whitney U-test are as follows:

Comparison of anxiety between non-disfiguring facial injuries and facial disfiguring injuries in the entire sample (Table 1)

- In patients with non-disfiguring facial injuries the mean score of HADS at the DOD was (8.10 ± 2.51) compared to

patients with disfiguring facial injuries mean score (16.34 ± 3.28) and this was statistically significant ($P < 0.001$).

- In patients with non-disfiguring facial injuries the mean score of HADS at discharge after 1-month was (3.48 ± 1.99) compared to patients with disfiguring facial injuries mean score (13.76 ± 2.90) and this was statistically significant ($P < 0.001$).
- In patients with non-disfiguring facial injuries the mean score of HADS at discharge after 6 months was (1.36 ± 1.40) compared to patients with disfiguring facial injuries mean score (12.16 ± 2.28) and this was statistically significant ($P < 0.001$).

Comparison of depression between non-disfiguring facial injuries & facial disfiguring injuries in the entire sample (Table 1)

- In patients with non-disfiguring facial injuries the mean score of HADS at the DOD was (8.84 ± 2.51) compared to patients with disfiguring facial injuries mean score (15.90 ± 3.53) and this was statistically significant ($P < 0.001$).
- In patients with non-disfiguring facial injuries the mean score of HADS at discharge after 1-month was (3.68 ± 2.00) compared to patients with disfiguring facial injuries mean score (13.01 ± 2.47) and this was statistically significant ($P < 0.001$).
- In patients with non-disfiguring facial injuries the mean score of HADS at discharge after 6 months was (1.22 ± 1.40) compared to patients with disfiguring facial injuries mean score (10.47 ± 1.15) and this was statistically significant ($P < 0.001$).

Comparison of anxiety among male patients who had sustained non-disfiguring facial injuries and facial disfiguring injuries (Table 2)

- In male patients with non-disfiguring facial injuries the mean score of HADS at the DOD was (5.70 ± 0.72) compared to patients with disfiguring facial injuries mean score (16.00 ± 3.66) and this was statistically significant ($P < 0.001$).
- In male patients with non-disfiguring facial injuries the mean score of HADS at discharge after 1-month was (1.85 ± 0.36) compared to patients with disfiguring facial injuries mean score (12.83 ± 2.75) and this was statistically significant ($P < 0.001$).
- In male patients with non-disfiguring facial injuries the mean score of HADS at discharge after 6 months was (0.00) compared to patients with disfiguring facial injuries mean score (11.30 ± 1.97) and this was statistically significant ($P < 0.001$).

Comparison of depression among male patients who had sustained non-disfiguring facial injuries and facial disfiguring injuries (Table 2)

- In male patients with non-disfiguring facial injuries the mean score of HADS at the DOD was (8.11 ± 2.15) compared to patients with disfiguring facial injuries mean score (15.72 ± 4.03) and this was statistically significant ($P < 0.001$).
- In male patients with non-disfiguring facial injuries the mean score of HADS at discharge after 1-month was (2.56 ± 1.08) compared to patients with disfiguring facial injuries mean score (12.65 ± 2.60) and this was statistically significant ($P < 0.001$).
- In male patients with non-disfiguring facial injuries the mean score of HADS at discharge after 6 months was (0.00) compared to patients with disfiguring facial injuries mean score 10.30 (±1.28) and this was statistically significant ($P < 0.001$).

Comparison of anxiety among female patients who had sustained non-disfiguring facial injuries and facial disfiguring injuries (Table 3)

- In female patients with non-disfiguring facial injuries the mean score of HADS at the DOD was 10.37 (±1.05) compared to patients with disfiguring facial injuries mean score 16.72 (±2.75) and this was statistically significant ($P < 0.001$).
- In female patients with non-disfiguring facial injuries the mean score of HADS at discharge after 1-month was 5.02 (±1.65) compared to patients with disfiguring facial

Table 1: Anxiety and depression comparison between non-disfiguring injuries and facial disfiguring injuries (entire sample).

Scale	Time interval	Injury	*N*	Mean	SD	SEM	Mean difference	*Z*	*P* value
HADS anxiety	DOD	Facial non-disfiguring	111	8.10	2.51	0.24	−8.241	−12.535	<0.001*
		Facial disfiguring	153	16.34	3.28	0.26			
	1-month	Facial non-disfiguring	111	3.48	1.99	0.19	−10.281	−13.939	<0.001*
		Facial disfiguring	153	13.76	2.90	0.23			
	6 months	Facial non-disfiguring	111	1.36	1.40	0.13	−10.803	−14.185	<0.001*
		Facial disfiguring	153	12.16	2.28	0.18			
HADS depression	DOD	Facial non-disfiguring	111	8.84	2.51	0.24	−7.058	−10.775	<0.001*
		Facial disfiguring	153	15.90	3.53	0.29			
	1-month	Facial non-disfiguring	111	3.68	2.00	0.19	−9.337	−14.179	<0.001*
		Facial disfiguring	153	13.01	2.47	0.20			
	6 months	Facial non-disfiguring	111	1.22	1.40	0.13	−9.254	−14.817	<0.001*
		Facial disfiguring	153	10.47	1.15	0.09			

HADS: Hospital anxiety and depression scale, DOD: Date of discharge, SD: Standard deviation, SEM: Standard error of mean; p<0.001 denotes significance.

Table 2: Anxiety and depression comparison between non-disfiguring injuries and facial disfiguring injuries (males).

Scale	Time interval	Injury	*N*	Mean	SD	SEM	Mean difference	*Z*	*P* value
HADS anxiety	DOD	Facial non-disfiguring	54	5.70	0.72	0.10	−10.296	−10.578	<0.001*
		Facial disfiguring	81	16.00	3.66	0.41			
	1-month	Facial non-disfiguring	54	1.85	0.36	0.05	−10.975	−10.449	<0.001*
		Facial disfiguring	81	12.83	2.75	0.31			
	6 months	Facial non-disfiguring	54	0.00	0.00	0.00	−11.296	−10.595	<0.001*
		Facial disfiguring	81	11.30	1.97	0.22			
HADS depression	DOD	Facial non-disfiguring	54	8.11	2.15	0.29	−7.605	−7.372	<0.001*
		Facial disfiguring	81	15.72	4.03	0.45			
	1-month	Facial non-disfiguring	54	2.56	1.08	0.15	−10.099	−10.458	<0.001*
		Facial disfiguring	81	12.65	2.60	0.29			
	6 months	Facial non-disfiguring	54	0.00	0.00	0.00	−10.296	−10.741	<0.001*
		Facial disfiguring	81	10.30	1.28	0.14			

HADS: Hospital anxiety and depression scale, DOD: Date of discharge, SD: Standard deviation, SEM: Standard error of mean; p<0.001 denotes significance.

Table 3: Comparison between non-disfiguring injuries and facial disfiguring injuries (females).

Scale	Time interval	Injury	*N*	Mean	SD	SEM	Mean difference	*Z*	*P* value
HADS anxiety	DOD	Facial non-disfiguring	57	10.37	1.05	0.14	−6.354	−8.551	<0.001*
		Facial disfiguring	72	16.72	2.75	0.32			
	1-month	Facial non-disfiguring	57	5.02	1.65	0.22	−9.788	−9.836	<0.001*
		Facial disfiguring	72	14.81	2.73	0.32			
	6 months	Facial non-disfiguring	57	2.65	0.61	0.08	−10.490	−10.011	<0.001*
		Facial disfiguring	72	13.14	2.23	0.26			
HADS depression	DOD	Facial non-disfiguring	57	9.53	2.65	0.35	−6.571	−8.384	<0.001*
		Facial disfiguring	72	16.10	2.87	0.34			
	1-month	Facial non-disfiguring	57	4.74	2.09	0.28	−8.680	−10.006	<0.001*
		Facial disfiguring	72	13.42	2.27	0.27			
	6 months	Facial non-disfiguring	57	2.37	1.05	0.14	−8.298	−10.588	<0.001*
		Facial disfiguring	72	10.67	0.95	0.11			

HADS: Hospital anxiety and depression scale, DOD: Date of discharge, SD: Standard deviation, SEM: Standard error of mean; p<0.001 denotes significance.

injuries mean score 14.81 (±2.73) and this was statistically significant ($P < 0.001$).

- In female patients with non-disfiguring facial injuries the mean score of HADS at discharge after 6 months was 2.65 (±0.61) compared to patients with disfiguring facial injuries mean score 13.14 (±2.23) and this was statistically significant ($P < 0.001$).

Comparison of depression among female patients who had sustained non-disfiguring facial injuries and facial disfiguring injuries (Table 3)

- In female patients with non-disfiguring facial injuries the mean score of HADS at the DOD was 9.53 (±2.65) compared to patients with disfiguring facial injuries mean score 16.10 (±2.87) and this was statistically significant ($P < 0.001$).
- In female patients with non-disfiguring facial injuries the mean score of HADS at discharge after 1-month was 4.74 (±2.09) compared to patients with disfiguring facial injuries mean score 13.42 (±2.27) and this was statistically significant ($P < 0.001$).
- In female patients with non-disfiguring facial injuries the mean score of HADS at discharge after 6 months was 2.37 (±1.05) compared to patients with disfiguring facial injuries mean score 10.67 (±0.95) and this was statistically significant ($P < 0.001$).

Comparison of anxiety among male and female injury patients' facial disfiguring injuries (Table 4)

- In patients with facial disfiguring injuries the mean score of HADS of female patients on DOD was higher (16.72 ± 2.75) compared to male patients (16.00 ± 3.66) and this difference was not statistically significant.
- In patients with facial disfiguring injuries the mean score of HADS of female patients after 1-month of discharge was higher (14.81 ± 2.73) compared to male patients (12.83 ± 2.75) and this difference was statistically significant ($P < 0.001$).
- In patients with facial disfiguring injuries the mean score of HADS of female patients after 6 months of discharge was higher (13.14 ± 2.23) compared to male patients (11.30 ± 1.97) and this difference was statistically significant ($P < 0.001$).

Comparison of depression among male and female patients with facial disfiguring injuries (Table 4)

- In patients with facial disfiguring injuries the mean score of HADS of female patients on date of discharge (DOD) was higher (16.10 ± 2.87) compared to male patients (15.72 ± 4.03) and this difference was not statistically significant.
- In patients with facial disfiguring injuries the mean score of HADS of female patients after 1-month of discharge was higher (13.42 ± 2.27) compared to male patients (12.65 ±

2.60) and this difference was statistically significant ($P < 0.001$).

- In patients with facial disfiguring injuries the mean score of HADS of female patients after 6 months of discharge was higher (10.67 ± 0.95) compared to male patients (10.30 ± 1.28) and this difference was statistically significant ($P < 0.001$).

Comparison of anxiety among female patients (less than 50 years of age and more than 50 years of age) with facial disfiguring injuries (Table 5)

- The mean score of HADS of male patients with facial injuries at the date of discharge (DOD) was higher in less than 50 years (17.40 ± 1.22) age group compared to patients aged more than 50 years (15.88 ± 3.77) and this difference was not statistically significant.
- The mean score of HADS of male with facial injuries after 1-month of discharge was higher in less than 50 years (16.60 ± 0.81) age group compared to more than 50 years (12.56 ± 2.61) and this difference was statistically significant ($P < 0.001$).
- The mean score of HADS of male patients after 6 months of discharge was higher in less than 50 years (14.80 ± 0.41) age group compared to more than 50 years (11.06 ± 1.78) and this difference was statistically significant ($P < 0.001$).

Comparison of depression among female patients (less than 50 years of age and more than 50 years of age with facial disfiguring injuries (Table 5)

- The mean score of HADS of male patients with facial injuries at the DOD was higher in less than 50 years (16.48 ± 0.82) age group compared to patients aged more than 50 years (15.63 ± 4.20) and this difference was statistically significant ($P < 0.001$).
- The mean score of HADS of male with facial injuries after 1-month of discharge was higher in less than 50 years (14.15 ± 1.61) age group compared to more than 50 years (12.50 ± 2.64) and this difference was statistically significant ($P < 0.001$).
- The mean score of HADS of male patients after 6 months of discharge was higher in less than 50 years (11.00 ± 0.00) age group compared to more than 50 years (10.25 ± 1.32) and this difference was statistically significant ($P < 0.001$).

Comparison of anxiety among male and female patients age group less than 50 years with facial disfiguring injuries (Table 6)

- The mean score of HADS on DOD was higher in less than 50 years (17.40 ± 1.22) age group female patients compared to male patients (16.00 ± 3.67) and this difference was not statistically significant.

Table 4: Anxiety and depression in facial injuries – disfiguring.

Scale	Time interval	Gender	*N*	Mean	SD	SEM	Mean difference	*Z*	*P* value
HADS anxiety	DOD	Male	81	16.00	3.66	0.41	−0.722	−0.563	0.574
		Female	72	16.72	2.75	0.32			
	1-month	Male	81	12.83	2.75	0.31	−1.978	−5.684	<0.001*
		Female	72	14.81	2.73	0.32			
	6 months	Male	81	11.30	1.97	0.22	−1.843	−5.684	<0.001*
		Female	72	13.14	2.23	0.26			
HADS depression	DOD	Male	81	15.72	4.03	0.45	−0.381	−3.005	0.003
		Female	72	16.10	2.87	0.34			
	1-month	Male	81	12.65	2.60	0.29	−0.762	−3.635	<0.001*
		Female	72	13.42	2.27	0.27			
	6 months	Male	81	10.30	1.28	0.14	−0.370	−1.993	0.046*
		Female	72	10.67	0.95	0.11			

HADS: Hospital anxiety and depression scale, DOD: Date of discharge, SD: Standard deviation, SEM: Standard error of mean; p<0.001 denotes significance.

Table 5: Anxiety and depression: Facial injuries disfiguring (female patients).

Scale	Time interval	Age group (years)	*N*	Mean	SD	SEM	Mean difference	*Z*	*P* value
HADS anxiety	DOD	<50	40	17.40	1.22	0.19	1.525	−0.998	0.318
		>50	32	15.88	3.77	0.67			
	1-month	<50	40	16.60	0.81	0.13	4.038	−7.761	<0.001*
		>50	32	12.56	2.61	0.46			
	6 months	<50	40	14.80	0.41	0.06	3.738	−7.761	<0.001*
		>50	32	11.06	1.78	0.31			
HADS depression	DOD	<50	40	16.48	0.82	0.13	0.850	−3.805	<0.001*
		>50	32	15.63	4.20	0.74			
	1-month	<50	40	14.15	1.61	0.25	1.650	−5.128	<0.001*
		>50	32	12.50	2.64	0.47			
	6 months	<50	40	11.00	0.00	0.00	0.750	−3.331	0.001*
		>50	32	10.25	1.32	0.23			

HADS: Hospital anxiety and depression scale, DOD: Date of discharge, SD: Standard deviation, SEM: Standard error of mean; p<0.001 denotes significance.

- The mean score of HADS on discharge after 1-month was higher in less than 50 years (16.60 ± 0.81) age group female patients compared to male patients (12.65 ± 2.54) and this difference was statistically significant ($P < 0.001$).
- The mean score of HADS on date of discharge after 6 months was higher in less than 50 years (14.80 ± 0.41) age group compared to male patients (11.12 ± 1.73) and this difference was statistically significant ($P < 0.001$).

Comparison of depression among male and female patients age group less than 50 years with facial disfiguring injuries (Table 6)

- The mean score of HADS on DOD was higher in less than 50 years (16.48 ± 0.82) age group female patients compared to male patients (15.76 ± 4.09) and this difference was statistically significant ($P < 0.001$).
- The mean score of HADS on discharge after 1-month was higher in less than 50 years (14.15 ± 1.61) age group female patients compared to male patients (12.59 ± 2.57) and this difference was statistically significant ($P < 0.001$).
- The mean score of HADS on date of discharge after 6 months was higher in less than 50 years (11.00 ± 0.00) age group compared to male patients (10.29 ± 1.29) and this difference was statistically significant ($P < 0.001$).

Discussion

Trauma research is increasingly focused on predicting the psychological morbidity that follows the facial injury. Earlier research and literature have established the presence of PTSD in patients with maxillofacial injuries.[1,4,14,15] There has also been published research on anxiety and depression following facial injuries.

There is not much information available on anxiety and depression levels in patients who had sustained facial trauma with disfigurement/scarring post-operatively and patients who had facial injuries which had healed without disfigurement/scarring.

The present study has shown statistically significant increase in HADS scores (both for anxiety and depression) in patients who suffered facial disfiguring injuries compared to patients with non-disfiguring facial injuries. Both male and female patients who had sustained facial disfiguring injuries had a significant increase in HADS scores compared to male and female facial non-disfiguring injury patients.

Earlier studies have mentioned that the female patients were associated with significantly higher anxiety and depression scores following facial injury when compared to men.[16]

This was concurrent in our study, in a comparison between male and female patients though it was found that the HADS score was high in the female group at the time of discharge both the anxiety and depression score were significantly higher at the 1-month and 6 months post-operatively.

Another important variable we tried to find out was if the age of the patient sustaining facial injuries was a factor in increased anxiety and depression levels.

We found that among males there was no significant difference of anxiety and depression levels in patients who aged less than 50 years and those whose age was more than 50 years.

Among the female patients both anxiety and depression levels were higher after 1-month and 6 months post-operatively in patients who aged less than 50 years compared to patients who aged more than 50 years.

At 1-month and 6 months post-operatively the female facial disfiguring injury patients who aged less than 50 years had higher anxiety and depression levels compared to male patients who aged less than 50 years.

There was no significant difference among anxiety and depression levels of patients in both the female and male patients aging above 50 years of age.

Our study found that psychological disturbances was present at the times of discharge and were at a higher level throughout the follow-up period. It reiterates that we have to strive and

Table 6: Anxiety and depression: Facial injuries disfiguring (age group less than 50 years of age).

Scale	Time interval	Gender	*N*	Mean	SD	SEM	Mean difference	*Z*	*P* value
HADS anxiety	DOD	Male	51	16.00	3.67	0.51	−1.400	−0.928	0.353
		Female	40	17.40	1.22	0.19			
	1-month	Male	51	12.65	2.54	0.36	−3.953	−8.713	<0.001*
		Female	40	16.60	0.81	0.13			
	6 months	Male	51	11.12	1.73	0.24	−3.682	−8.713	<0.001*
		Female	40	14.80	0.41	0.06			
HADS depression	DOD	Male	51	15.76	4.09	0.57	−0.710	−4.568	<0.001*
		Female	40	16.48	0.82	0.13			
	1-month	Male	51	12.59	2.57	0.36	−1.562	−5.736	<0.001*
		Female	40	14.15	1.61	0.25			
	6 months	Male	51	10.29	1.29	0.18	−0.706	−3.274	0.001*
		Female	40	11.00	0.00	0.00			

HADS: Hospital anxiety and depression scale, DOD: Date of discharge, SD: Standard deviation, SEM: Standard error of mean; p<0.001 denotes significance.

provide counseling and treatment so that the trauma care can be comprehensive.

Conclusion

The results of this study led to the conclusion that in comparison with patients who had facial disfiguring injuries and non-disfiguring facial injuries, the mean HADS scores were significantly higher in the disfiguring facial injury patient. This indicates increased anxiety and depression levels, and this was observed at all three study intervals (date of discharge, 1-month and 6 months post-operatively). The HADS was higher in female patients who were lesser than 50 years age compared to male patients of the same age group, which implies higher anxiety and depression levels.

Clinical significance

Individuals who may be at risk to develop anxiety and depression can be recognized at an early stage and this will lead to the comprehensive care of the patient. This recognition can be achieved by creating awareness in the nursing, para-medical and surgical staff about the psychological morbidity that can develop. Such early recognition and treatment may prevent or lessen anxiety and depression among the patients. Clinically facial injury patients can be given structured self-report questionnaires to help us in identifying and preventing the presence of anxiety and depression, such an early assessment and treatment of the psychological morbidity can be initiated by staff skilled to manage such issues leading to faster recovery and improvement in the quality of life of the facial trauma patients.

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