Patient's Quality of Life after Facial Trauma at Khartoum Teaching Dental Hospital

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Abstract

Background:

Human face is a vital component of every one's personality, and plays an important role in emotion and social communication. Undiagnosed psychological problems can potentially complicate physical recovery after trauma, and cause significant trauma co morbidity. This research studied the psychological factors (anxiety and depression) after maxillofacial trauma and correlates these factors with the demographic data.

Methodology:

A descriptive cross sectional study for trauma patients attended at Khartoum teaching dental hospital (KTDH) during the period from 15/12/2017 to 15/9/2018. The study was achieved using the HADS questionnaire.

Results:

Of 81 trauma patients attended at (KTDH), 79% of them were males, mean age of the sample (31.7±12.4 SD) years, median was 30 years. 60% of the samples were singles, 68% were employed, Different educational levels were observed, and 8.6% of the patients had anxiety while 13.6% reported with depression.

Conclusion:

The study concluded that psychological problems (anxiety and depression) are frequent following maxillofacial trauma, and require early diagnosis and management so as to promote physical recovery and reduce the trauma co morbidity.

Key words: Maxillofacial trauma, anxiety, depression.

I. INTRODUCTION

Maxillofacial trauma is any physical trauma to the face. There are many causes of this oral and maxillofacial trauma (**OMFT**) such as falls, assaults, sport injuries and vehicle crashes. Facial trauma can also results from war injuries such as gunshots and blasts, animal attacks, industrial accidents and others [(1, 2)].

As known, the human face is a vital component of every ones personality [(3)] because of its unique features, it 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 [(4)].

Neglected psychological needs of these facially injured patients can potentially complicate physical recovery in the short term and negatively impact on patient compliance and follow up attendance [(5)].

Different trauma scales were founded to measure the severity of trauma, disfigurement, anxiety and depression, such as Davidson Trauma Scale (**DTS**), Spiel Berger's state –trait anxiety inventory (**STAI**), Zung's Self Relating Depression Scale (**ZSDS**) and hospital anxiety depression scale (**HADS**) [(3, 5, 7, 8, 9)]. The (**HADS**) was first described by Zigmond and Snaith 1983; it consists of two separate subscales for anxiety and depression, every patient will be classified according to the recorded score from the scale, [0 to 7] indicates no anxiety or depression, [8 to 10] indicates borderline anxiety or depression, [equal to or greater than 11] indicates probable anxiety or depression [(5)]. **Anxiety:** Is a common feeling of fear or apprehension often without clear justification [(7)]. **Depression:** Is a common mental disorder that presents with depressed mood, loss of interest, loss of energy and poor concentration worth to mention that depressive symptoms are common and experienced by most people in response to stressful life events, while depressive disorders is characterized by recurrent episodes of disturbances in mood[(6,7)] **Objectives:** This study aims to investigate the psychological factors occurring among Sudanese after maxillofacial trauma presenting at(**KTDH**) from 15⁄12⁄2017 to 15⁄09⁄2018.also correlate different patients factors (Demographic): Age, Gender, socio-economic status with the underlying psychological disorder so as to highlight the need for routine brief psychological assessment of all trauma patients.

II. MATERIALS AND METHODS

A descriptive Cross-Sectional hospital based study was conducted at (**KTDH**) at Khartoum state for patients with facial trauma following operation in the period from 15⁄12⁄2017 to 15⁄09⁄2018, (**HADS**) questionnaire was the screening tool for anxiety and depression and was filled independently, all data were analyzed statistically using (**SPSS**) program For all tests a P - value was set at (**0.05**) level, with 95% confidence interval. **Ethical Considerations:** A letter of permission from (**SMSB**) to conduct the study had been sent to (**KTDH**). Information

was treated with confidentiality and no patient name was mentioned.

III. RESULTS

IV. Table (3-1): Descriptive statistics for age

(n)	**Valid**	79
	Missing	2
Mean		31.7
Median		30.0
Std. Deviation		12.4
Range		18-80

Figure (3-1): figure show Gender of patient's sample

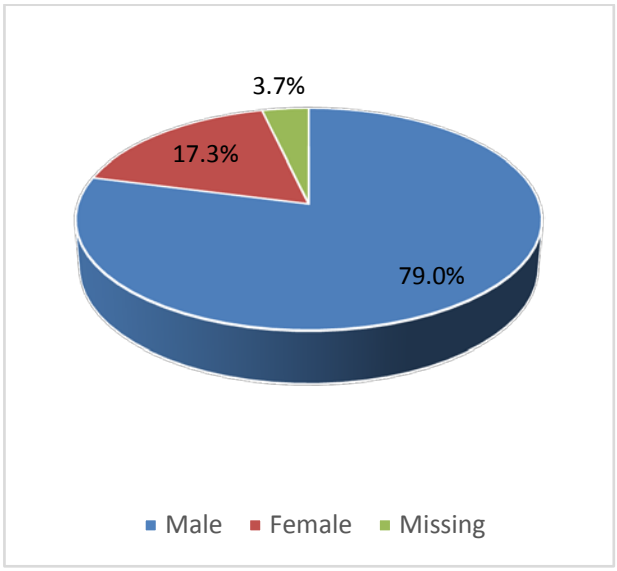

Figure (3-2): Histogram for age

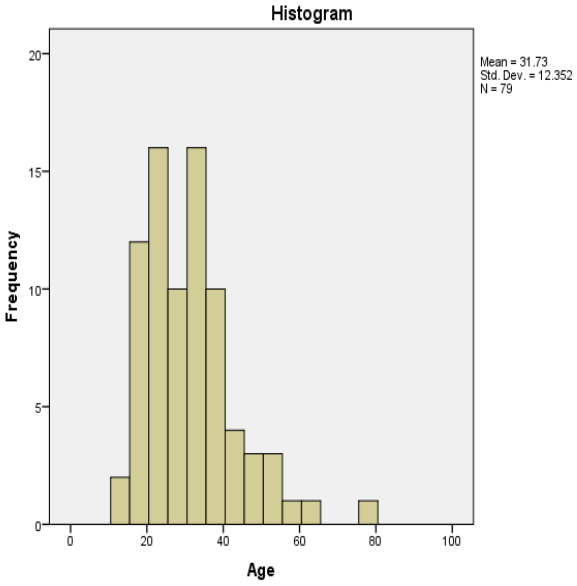

Figure (3-3): Educational level

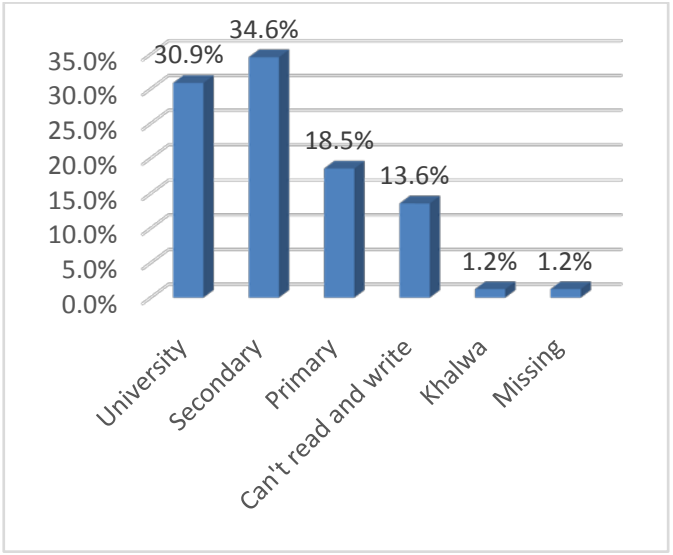

Figure (3-4): Marital status

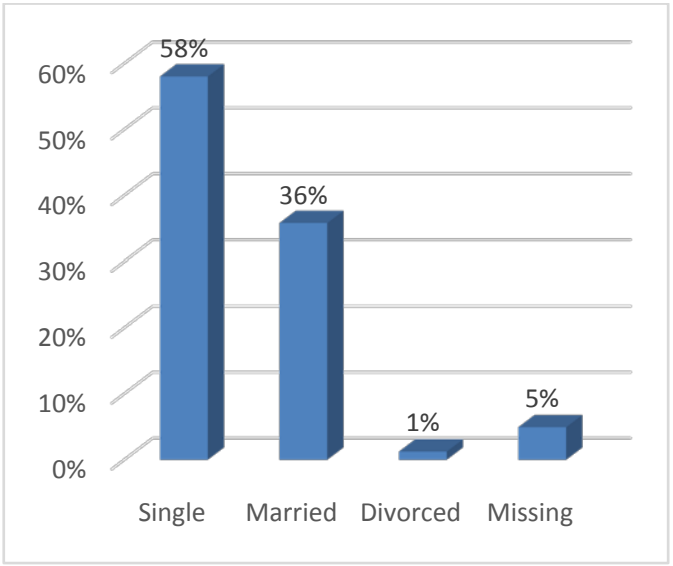

Figure (3-5): Working status

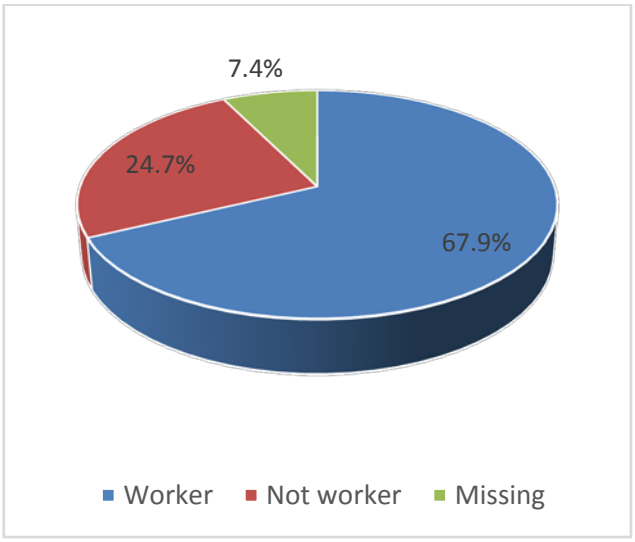

Table (3-2): Anxiety

Status	Frequency	Percent
Normal	65	80.2
Borderline case	9	11.1
Abnormal case	7	8.6
Total	81	100

Table (3-3): Depression

Status	Frequency	Percent
Normal	56	69.1
Borderline case	14	17.3
Abnormal case	11	13.6
Total	81	100

Table (3-4): Association between gender and Anxiety:

Gender		Anxiety			Total	P-value
		Normal	Borderline case	Abnormal case		
Male	(n)	53	6	5	64	0.441
	%	82.8%	9.4%	7.8%	100%	
Female	(n)	10	3	1	14	
	%	71.4%	21.4%	7.1%	100%	
Total	(n)	63	9	6	78	
	%	80.8%	11.5%	7.7%	100%	

Table (3-5): Association between gender and Depression:

Gender		**Depression**			**Total**	**P-value**
		Normal	**Borderline case**	**Abnormal case**		
Male	(n)	47	10	7	64	0.266
	%	73.4%	15.6%	10.9%	100%	
Female	(n)	7	4	3	14	
	%	50.0%	28.6%	21.4%	100%	
Total	(n)	54	14	10	78	
	%	69.2%	17.9%	12.8%	100%	

Table (3-6): Correlation between anxiety and depression

		Anxiety	depression
Anxiety	Pearson Correlation		.745**
	P-Value		.000
	(n)	81	81

depression	Pearson Correlation	.745**	
	P-Value	.000	
	(n)	81	81

Table (3-7): Correlation between age, anxiety and depression

		Age	Anxiety	Depression
Age	Pearson Correlation		-.314**	-.140
	P-value		.005	0.219
	(n)	79	79	79
Anxiety	Pearson Correlation	-.314**		.475**
	P-value	.005		.000
	(n)	79	81	81
Depression	Pearson Correlation	-.140	.475**	
	P-value	.219	.000	
	(n)	79	81	81

Table (3-8): Spearman rank correlation between education, anxiety and depression

Variable with education	**Coefficient**	**P-Value**
Anxiety	-0.314	0.005
Depression	-0.140	0.219

Table (3-10): Association between marital status and anxiety

Marital status		Anxiety			Total	P-value
		Normal	Borderline case	Abnormal case		
Single	(n)	35	8	5	48	0.017
	%	72.9%	16.7%	10.4%	100%	
Married	(n)	26	1	2	29	
	%	89.7%	3.4%	6.9%	100%	
Total	(n)	61	9	7	77	
	%	79.2%	11.7%	9.1%	100%	

Table (3-10): Association between marital status and depression

Marital status		Normal	Borderline case	Abnormal case	Total	P value
Single	(n)	30	9	9	48	0.249
	%	62.5%	18.8%	18.8%	100%	
Married	(n)	23	4	2	29	
	%	79.3%	13.8%	6.9%	100%	
Total	(n)	53	13	11	77	
	%	68.8%	16.9%	14.3%	100%	

Table (3-11): Association between working status and anxiety

Working status		Anxiety			Total	P-Value
		Normal	Borderline case	Abnormal case		
Worker	(n)	45	5	5	55	0.749
	%	81.8%	9.1%	9.1%	100%	
Not worker	(n)	15	3	2	20	
	%	75.0%	15.0%	10.0%	100%	
Total	(n)	60	8	7	75	
	%	80%	10.7%	9.3%	100%	

Table (3-12): Association between working status and depression

Working status		Depression			Total	P-Value
		Normal	Borderline case	Abnormal case		
worker	(n)	40	8	7	55	0.564
	%	72.7%	14.5%	12.7%	100%	
Not worker	(n)	12	4	4	20	
	%	60.0%	20.0%	20.0%	100%	
Total	(n)	52	12	11	75	
	%	69.3%	16.0%	14.7%	100%	

V. DISCUSSION

Trauma has been identified as a leading cause of death and disability in many countries. it leads to a greater loss of economically productive years of life[22,23],consumes more than (28%) of the total cost of trauma treatment[23,24]moreover can precipitate different psychological problems[25,26,27,27,28] . This study is investigating the psychological factors including anxiety and depression among the trauma patients and correlate them with the demographic data, using (**HADS**) as a screening tool for the assessment of the psychological status [7, 17, 18, 19, 20, 21]. Since no literature before, this is the first study to investigate for the presence of anxiety and depression among Sudanese patients presented at (**KTDH**) following maxillofacial trauma.

Demographic data: Age of the patient's sample: In this study mean age of the (**OMFT**) patients was (31.7 ± 12.4) years, the reported sample age range was (18-80) years in line with Tebble N J *et al* [4], Sen P *et al* [37] and Islam *et al* [5] studies results. In contrary to the previously mentioned studies, however, Norman S.B *et al* [12] reported (63years) as a mean age for the presented patients. **Gender of the patient's sample:** In consistent with most of the literatures, in this study high proportion of males was founded affected by maxillofacial trauma compared to females. Of the 81 (**OMFT**) patients presented, 64 of them (79%) were males, while only 14(17.3%) were females. Similar to the study of Islam *et al* [39], Sen P *et al* [37]. May be one the reasons of this higher distribution of facial trauma among males, is the etiology of the traumatic event. Lee *et al* [40] Inter-personal violence (**IPV**) is responsible for nearly half (44%) of the (**OMFT**) cases, this difference in gender distribution is influenced by many other genetic, geographical, and social backgrounds. **Social status:** Majority of the participants were singles 47 (58%), married people constitute 29 (35.8%), only 1 was divorced (1.2%), 4 participants (4.9%) didn't specify their marital status for unknown reasons. Nwashindi A *et al* [3] in his study reported that (44%) of the sample were singles, (30%) were married, (20%) divorced and only 6% were widowed. On the other hand, Islam *et al* (2010)[5] divided the facial trauma group into married, which constitute majority (78%) of the sample, and singles (12%).Similarly, Islam *et al* (2012)[39] reported higher percentage of the married participants (67%) compared to only (33%) singles. **Work status:** This study reported that most of the presented patients were workers (67.9%) while non worker group of patients constitute (24.7%), this is against to what Glynn *et al* (2007) [16], Nwashindi A *et al* [3] had found in their studies. This higher proportion of the presented employed people compared to unemployed ones, reflect

that employed people are more prone to develop traumatic events than unemployed ones. **Education:** Different educational levels observed among the presented patients sample with university graduates constitutes (30.9%).However, (34.6%) studied till secondary schools, (18.5%) learned ill the primary schools, while illiterates who can't read or write constitute (13.6%).Gandjalikhan - Nassab S A *et al* [8] divided the patients sample into two categories only, patients has learned less than diploma constituted (60%) of the sample and who has more than diploma (40%). These observed different educational levels may be due to the various geographical backgrounds, Sudan is a big country with multiple socio-economical variations.

Prevalence of anxiety and depression: In a total of 81 patients presented at (**KTDH**) following maxillofacial trauma, the current study found (8.6%) of them has anxiety while (13.6%) of them has depression. This result is supported by Hull A.M *et al* [13], Fabio Roccia *et al* [9], Grant N *et al* [35] and Sen P *et al* [37].

●In this study there is a highly significant positive correlation between anxiety and depression. An increase in anxiety leads to increase in depression.

Correlation of anxiety and depression with demographic data: A highly significant negative correlation was reported in this study between age and anxiety, an increase in age leads to decrease in anxiety, although, no significant correlation found between age and depression. Fabio Roccia *et al* (2005) [9], Tebble N J (2004) [38] in contrary to our study suggested that age didn't have a significant effect on anxiety. The current study suggested no significant correlation between gender and anxiety, depression. Studies in line with this study like David F.Tolin *et al*, Lioyd *et al*, Xuetaly *et al* and Tebble N J *et al* [29, 30, 31, 38]. A study of Andersen, Maksud *et al*[41], Newell *et al*[42] Breslau and Kessler *et al* [33] suggested that gender can affect the patient vulnerability to develop (**PTSD**). Despite of the small size of females in some studies, researchers suggested that females are more prone to develop psychological disorders and this may be due to the biological variations between males and females, like hormones and genes [44]. The behavioral response toward any stressful events is different between the two genders; males tend to isolate themselves, watching TV, sports, praying, and drinking alcohol, while women tend prolong the negative feelings by crying, self blaming [45]. A significant relationship was found between the social status and anxiety (P value <0.05) although no significant correlation between the social status and depression, this result is in line with Nwashindi A *et al* [3], Everson *et al* [32], and Newell *et al* [42], but Tebble N J *etal* (2004) [38] support even distribution of psychological disorders between people living alone or those who live among families and friends. In this study a highly significant negative correlation was found between anxiety and education, value<0.05, which means highly educated patients, has less anxiety. But no significant correlation was reported between education and depression in contrary to Fabio Roccia *et al* [9]. this study found no significant association between employment, anxiety, depression and opposite to Nwashindi A *et al* [3], Glynn (2007) [16], and Deborah *et al* [34].

Conclusion: The current study concluded that anxiety and depression are common in Sudanese following maxillofacial trauma. The correlation between anxiety and depression was significant (positive), means an increase in anxiety leads to increase in depression. Although, a significant negative correlation between anxiety and age means an increase in age leads to decrease in depression, the relationship between age and depression was not significant. It's also found that the social status can affect the patient's vulnerability to develop anxiety; singles are more prone to develop anxiety in comparison with married people. Finally, this study reported a significant negative correlation between anxiety and education; it's found that highly educated patients have less anxiety.

Future scopes: Since there is no enough literature supporting trauma patient needs for psychological assessment, further researches and studies is mandatory. Routine psychological screening should be stressed to facilitate early diagnosis, intervention, treatment. Increase the awareness of specialists by the effect of trauma upon body image and psychological wellbeing despite the type or the size of the injury. More over the nurse, medicals, and people around the patient, all of them should be aware of these possible complications so as to promote early physical recovery, and decrease the associated Co morbidity of them. A trauma center with communication between trauma specialist, psychotherapist, reconstructive surgeon and plastic surgeon will give much better outcomes.

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