Zagazig University Medical Journal
www.zumj.journals.ekb.eg
https://doi.org/10.21608/zumj.2024.287863.3383 Volume 30, Issue 5, August 2024
Manuscript ID ZUMJ-2405-3383 (R1)
DOI 10.21608/ZUMJ.2024.287863.3383
ORIGINAL ARTICLE

Prevalence of Depressive Symptoms, Anxiety Symptoms, Disturbed Self Image and Role of Social Support in Burn Patients

Heba A. Abdelsalam, Nagy Fawzy, Nagda M. Elmasry, Esraa Mohammed Ibrahim Ahmed*, Yomna Ahmed khalil
Psychiatry Department, Faculty of Medicine, Zagazig University, Egypt

***Corresponding author:**
Esraa Mohammed Ibrahim Ahmed

Email:
em9063226@gmail.com

Submit Date 07-05-2024
Revise Date 26-05-2024
Accept Date 27-05-2024

ABSTRACT

Background: Burn injuries are defined as injuries caused by applying heat, chemicals, electrical current, or radiation to the external or internal surface of the body, which destroys the tissue. Studying psychological outcomes of burns as depression, anxiety, PTSD and disturbed self-image is crucial for a better understanding of the symptoms of existing psychological problems and prediction of their upcoming, therefore better management, which in turn improves the quality of life of these patients.

Aim: To assess (depression, anxiety, post-traumatic stress) symptoms, disturbed self-image, and the role of social support in burn patients for better management to improve the quality of life in those patients.

Objectives: The current study is designed to detect the prevalence of depressive symptoms, anxiety symptoms, disturbed self-image, and clinical correlates of these disorders and to assess the role and degree of social support among burn patients.

Methods: This cross-sectional study included 120 burn patients admitted at Burn Centers in Hehia General Hospital from August 2023 to Mars 2024. All enrolled participants were subjected to a semi-structured interview, Structured Clinical Interview of the Diagnostic Statistical Manual for DSM-IV-TR Axis I Disorders (SCID-I), Hamilton Anxiety Rating Scale (HAM-A), Hamilton Depression Rating Scale (HAM-D), Self-image Assessment Scale, Multidimensional Scale of Perceived Social Support (MSPSS) and The Impact of Event Scale-Revised. Informed written consent was obtained from the patients after a full explanation of the procedure in the study. Sociodemographic data, Burn-related features, and psychiatric assessment based on the above-mentioned scales were taken from all patients.

Results: The study found a high prevalence of anxiety, depression, disturbed self-image, and post-traumatic stress symptoms among burn patients. The severity of psychological impacts was associated with factors like being female, single marital status, living in urban areas, and higher total body surface area burned. Social support was generally high, especially among rural residents and those with higher-degree burns.

Conclusion: One of the most horrific experiences a person may have is a burn injury, which has long-lasting effects on a person's physical and mental health.

Keywords: Depressive symptoms, Anxiety symptoms, Disturbed Self-image, Social Support, Burn Patients.

INTRODUCTION

Burn injuries are described as wounds that result in tissue destruction and are brought on by the application of heat, chemicals, electrical current, or radiation to the body's exterior or interior surface [1]. Burns are severe, erratic, and catastrophic types of trauma that have an impact on the victim's physical and mental well-being [2].

With advancements in medical care, a growing number of patients can endure the acute period of their recovery and are then left to cope with the complicated and individualized long-term psychological impacts of burns [3].

Due to the lengthy hospital stays and treatments needed, the most frequent psychological issues that burn injury patients deal with are pain, anxiety, melancholy, PTSD, concern over physical disfigurement, social isolation, and financial strain [4].

Burn damage patients' quality of life and wellness are greatly improved when their psychological issues are resolved [5]. If these issues are not resolved during the acute stage, they could develop into long-term mental health disorders [6]. Burn scars frequently result in deformity, which may change the patient's perception of their body, hinder their ability to interact socially, and lower their quality of life. A patient's social life is also seriously threatened by altered looks and stigmatization. Given the severity of the burn injury and the arduous process of recuperating and readjusting to society, burns may be regarded as an ongoing traumatic stress disorder [7].

A person's views, thoughts, and feelings about their body make up their self-image, which is the best indicator of long-term psychosocial adjustment following a burn injury. Burn injuries can make patients adjust to changes in their physical appearance, which can negatively impact their perception of their body and cause them to worry about other people's opinions [8].

A person's physical, mental, psychological, and spiritual well-being are positively impacted by social support awareness, which also raises self-care levels and helps avoid unfavorable physiological issues. In the end, this improves performance [9].

A psychiatric team is required in burn centers because psychological support for burn patients is still inadequate, despite the overlap in the interface between psychiatric morbidity and burn injuries [10].

The psychological needs of burn survivors must be met in light of the rising survival rates among burn patients. The goal is to help the survivor return to their pre-burn level of functioning and quality of life, as well as to successfully reintegrate into society in good physical and mental health [11].

METHODS

This study is a cross-sectional study. It was done in Burn centers at Hehia General Hospital during the period from August 2023 to Mars 2024 on 120 burn survivor who met inclusion and exclusion criteria and were consecutively collected from Hehia Burn Centres.

Inclusion criteria included burn patients who were admitted to burn centers or attended follow-up in outpatient clinics, aged >18 years and < 45 years of both sexes

Exclusion criteria included participants with a history of mental illness such as [acute psychosis, dementia, mental retardation] physical illness, severely ill or intubated patients, current substance use disorders, and participants with chronic major medical disorders.

Enrollment of participants was voluntary. Patients gave their informed written consent after being fully informed about the study's method and other ethical considerations raised by the IRB. The study design was also approved by the Zagazig University Faculty of Medicine's Ethical Committee.

The following general principles were explained to all the Participants: Participation is entirely voluntary and free of charge. There is no guarantee that participation will directly benefit the individual. The treatment plan is unaffected by the decision to withdraw from the trial at any moment and without explanation. The participant's identity will be kept completely anonymous, but the study's findings may be published in a scientific journal.

Participants were subjected to the following

1- Sociodemographic and clinical characteristics: both gender and age, Relationship status, employment status, number of children, educational attainment, financial situation residence, the people he lives with, smoking habits, substance abuse, family history of burns, medical history, and mental health history].

2- Information related to burn: Type of burn (fire, electrical, chemical, or thermal), percentage of total body surface area (TBSA), degree of burn (first, second, and third), and length of hospital stay (days) are among the factors that determine the type of burn.

3- Structured Clinical Interview of the Diagnostic Statistical Manual for DSM-IV-TR Axis I Disorders [SCID-I] [12]

Prior studies carried out by were used to translate and validate the Arabic version of the SCID-I. El Missery et al ., [13] in the Institute of Psychiatry, Ain Shams University.

4- Hamilton Anxiety Rating Scale [HAM-A]: [14]

We used the Arabic version translated by Lotfy Fateem [15]. The 14 items on the scale are used to gauge how anxious a patient is.

5- Hamilton Depression Rating Scale [HAM-D]: [14]

We used Arabic version translated by Lotfy Fateem [15]. For many years, the HAM-D scale has been a valuable tool for assessing a patient's degree of depression before to, during, and following treatment. It consists of 21 items that

are administered by clinicians; however, only the first 17 are used for score.

6- Self- image assessment scale

We used Arabic version translated by *Abd-Elgawad, [16*]. Self -image assessment scale was developed by Abd- Elgawad, [16], to assess one's own perception of burn injuries. This scale has 48 statements that burn patients can either answer "yes" or "no" to.

It was utilized as a pre-test and post-test and has three dimensions.

A scoring system of self-image assessment scale

A score of one was given to each statement answered by Yes and zero to each statement answered by No. The total score was 48. The self-image assessment scale was classified into four levels: 1. High when the score ranged from 1-15 of the total score. 2. Moderate, when the score ranged from 16-20 of the total score. 3. Low, when the score ranged from 21-29 of the total score. 4. Very low, when the score ranged from 30-48 of the total score.

7- Multidimensional scale of perceived social support [MSPSS] [17]

The Multidimensional Scale of Perceived Social Support [MSPSS] is a brief research tool designed to measure perceptions of support from 3 sources: Family, Friends, and a Significant Other. With four elements for each subscale, the scale has a total of 12 items [17]. The average of each score obtained from all the elements is used to compute the MSPSS.

8-The Impact of Event Scale-Revised [IES-R; 18]

The IES-R is a 22-item self-report tool utilized to measure the subjective distress associated with traumatic events. [18]. It assesses three PTSD symptom clusters in the last week: intrusion, avoidance, and hyper-arousal symptoms. Responses were recorded on a 5-point Likert scale, which was then added up to get the overall score. A score of 33 or more suggested that PTSD may be suspected. Sum scores were determined using the mean of the completed items if at least 19 out of the 22 were completed. The IES-R scale's Arabic version exhibits strong validity and reliability [19].

Procedure: Procedure of this work passed through the following phases :

Preparation phase :The topic was selected based on the researcher's area of interest. The study plan was authorized following the necessary modifications after being presented to the Institutional Review Board (IRB) and the Department of Psychiatry, Faculty of Medicine, Zagazig University. This study did not use any funding. The clinical and psychometric assessment instruments were ready to be used on the specimen.

Data collection :

At the Hehia General Hospital for Burns in Sharkia, Egypt, recruitment was conducted. The interviews took place between June 2023 and December 2023, a period of six months. All subjects provided their informed consent. The previously stated techniques were used, and interviews with the patients who met the inclusion criteria were conducted.

STATISTICAL ANALYSIS

Following the gathering of data, the sheets were coded, scored, and then entered into Microsoft Excel 2013 sheets. The statistician then received the sheets for statistical analysis.

RESULTS

Table (1) shows that the Hamilton anxiety scale Scores ranged from 15 to 41 with mean ± SD of 26.6 ± 7.07, (11.7%) had mild anxiety as their score was 17 or less, (30.8%) had mild to moderate anxiety as their score ranged from 18 to 24, while (28.3%) had moderate to severe anxiety as their score ranged from 25 to 30 and (29.2%) had severe anxiety as their score were more than 30 in HAM-A.

Table (2) shows that there was a statistically significant difference in marital status and residence as regards Hamilton anxiety scale Scores, as HAM-A scores were found to be higher among single patients *(P =0.03)* and patients living in urban areas *(P = 0.01)*.

Table (3) shows that the Hamilton depression scale Scores ranged from 15 to 36 with mean ± SD of 26.2 ± 5.48, none of the patients had mild depression, while (15%) had moderate depression as their scores ranged from 14 to 18, while (12.5%) had severe depression as their score ranged from 19 to 22 and (72.5%) had very severe depression as their score was more than 22 in HAM-D. The self-image assessment scale Scores ranged from 16 to 36 with mean ± SD of 25.7 ± 5.68, none of the patients had high self-image, (21.7%) had moderate self-image as their score ranged from 16 to 20, (50.8%) had low self-image as their score ranged from 21 to 29, while (27.5%) had very low self-image as their score ranged from 30 to 48. The multidimensional scale of perceived social support Scores ranged from 22 to 77 with mean ± SD of 61.9 ± 11.6, (3.3%) had low social support as their mean scale score ranged from 1 to 2.9, while (28.3%) had moderate social support as their mean scale score ranged from 3 to 5 and (68.3%) had high social support as their mean scale score ranged from 5.1 to 7 in MSPSS. The impact of event scale revised scores ranged from 20 to 52 with mean ± SD of 33.4 ±

6.99, (41.7%) had no possible diagnosis of post-traumatic stress disorder as they scored less than 33, while (58.3%) had a possible diagnosis of post-traumatic stress disorder as they scored more than 33 in IES-R.

Table (4) shows that there was a statistically significant difference in marital status and residence, as HAM-D scores were found to be higher among single patients *(P =0.008)* and patients living in rural areas *(P = 0.005).*

Table (5) shows that there was a statistically significant association between Self-image assessment scale Scores, sex, marital status, and degree of burn as self-image assessment scale scores were higher among the female sex *(P=0.06),* higher among single patients *(P =0.04),* and higher among 3rd-degree burn *(P =0.01).*

Table (6) shows that there was a statistically significant association between the Multidimensional scale of perceived social support and residence and degree of burn, as MSPSS scores were found to be higher among patients living in urban areas *(P = 0.005)* and among 2nd & 3rd-degree burns *(P = 0.008).*

Table (7) shows that there was a statistically significant association between the impact of event scale and sex and degree of burn, as IES-R scores were found to be higher among the female sex *(P=0.01)* and among 2nd & 3rd degree *(P<0.001).*

Table (S1) shows that there was a significant positive correlation between Hamilton depression scale Scores and Self-image assessment scale Scores *(r=0.477, P<0.001).*

Table (S2) shows that there was a significant positive correlation between length of hospitalization with anxiety *(r=0.691, P<0.001),* and depression severity *(r=0.542, P<0.001).*

Table 1: Severity of Anxiety among studied patients (n=120

Variables		**All patients (n=120)**	
Hamilton anxiety scale	*Range*	15 – 41	
	Mean ± SD	26.6 ± 7.07	
Scores (HAM-A)		*No*	*%*
	Mild *(n.%)*	14	11.7%
	Mild to moderate *(n.%)*	37	30.8%
	Moderate to severe *(n.%)*	34	28.3%
	Severe *(n.%)*	35	29.2%

Table 2: Association between HAM-A Scores and demographic & burn characteristics among burn patients.

Variables		**HAM-A** *Mean ± SD*	**P value**
Sex	Male Female	26 ± 6.74 27.1 ± 7.42	0.49[1]
Marital status	Married Single	25.8 ± 7.5 28.3 ± 5.7	**0.03**[1]
Residence	Rural Urban	25.4 ± 6.82 29.1 ± 7.01	**0.01**[1]
Type of burn	Flame Scald Electrical Chemical	26.9 ± 7.73 25.6 ± 6.31 25.6 ± 4.45 28.5 ± 1.73	0.74[2]

Degree of burn	1st, 2nd degree 2nd,3rd degree 1st,2nd,3rd degree 3rd degree	27.9 ± 7.96 29.3 ± 7.06 25.2 ± 6.66 24	0.08[2]

**[1]Mann-Whitney U test, [2]Kruscal-Wallis test, Non-significant: P >0.05, Significant: P ≤0.05*

Table 3: Severity of Depression, levels of Self-image, perceived social and Post- Traumatic Stress Disorder among studied patients.

Variables		**All patients (n=120)**	
Hamilton depression scale Scores (HAM-D)	*Range*	15 – 36	
	Mean ± SD	26.2 ± 5.48	
		No	*%*
	Mild *(n.%)*	0	0%
	Moderate *(n.%)*	18	15%
	Severe *(n.%)*	15	12.5%
	Very severe *(n.%)*	87	72.5%
Levels of Self-image according to(Self-image assessment scale) Scores	*Range*	16 – 36	
	Mean ± SD	25.7 ± 5.68	
		No	*%*
	High *(n.%)*	0	0%
	Moderate *(n.%)*	26	21.7%
	Low *(n.%)*	61	50.8%
	Very low *(n.%)*	33	27.5%
Levels of perceived social support according to MSPSS	*Range*	22 – 77	
	Mean ± SD	61.9 ± 11.6	
		No	*%*
	Low *(n.%)*	4	3.3%

	Moderate *(n.%)*	34	28.3%
	High *(n.%)*	82	68.3%
PTSD among studied patients according to IES-R	*Range*	20 – 52	
	Mean ± SD	33.4 ± 6.99	
		No	*%*
	Not PTSD *(n.%)*	50	41.7%
	Possible PTSD *(n.%)*	70	58.3%

IES-R = Impact Of Event Scale- Revised
PTSD = Post-Traumatic Stress Disorder

Table 4: Association between HAM-D Scores and demographic & burn characteristics among burn patients

Variables		**HAM-D** *Mean ± SD*	**P value**
Sex	Male Female	26 ± 5.39 26.5 ± 5.61	0.53[1]
Marital status	Married Single	25.3 ± 5.71 28.4 ± 4.27	**0.008**[1]
Residence	Rural Urban	25.2 ± 5.68 28.5 ± 4.25	**0.005**[1]
Type of burn	Flame Scald Electrical Chemical	25.8 ± 5.84 26.6 ± 5.51 27.6 ± 2.46 29 ± 1.15	0.44[2]
Degree of burn	1st, 2nd degree 2nd,3rd degree 1st,2nd,3rd degree 3rd degree	24.5 ± 5.84 26.6 ± 5.04 26.2 ± 5.44 35	**0.082**

**[1]Mann-Whitney U test, [2]Kruscal-Wallis test, Non-significant: P >0.05, Significant: P ≤0.05*

Table 5: Association between Self-image assessment scale Scores and demographic & burn characteristics among burn patients

Variables		**Self-image** *Mean ± SD*	**P value**
Sex	Male Female	25.9 ± 6.46 25.6 ± 4.73	**0.006**[1]
Marital status	Married Single	25.4 ± 5.34 26.5 ± 6.38	**0.04**[1]

Residence	Rural Urban	25.7 ± 5.52 25.7 ± 6.1	0.98[1]
Type of burn	Flame Scald Electrical Chemical	25.9 ± 5.49 24.6 ± 4.71 28.8 ± 8.04 22 ± 6.93	0.12[2]
Degree of burn	1st, 2nd degree 2nd,3rd degree 1st,2nd,3rd degree 3rd degree	23.1 ± 4.57 27.3 ± 6.69 25.6 ± 5.37 30	**0.01[2]**

**[1]Mann-Whitney U test, [2]Kruscal-Wallis test, Non-significant: P >0.05, Significant: P ≤0.05*

Table 6: Association between MSPSS Scores and demographic & burn characteristics among burn patients

Variables		**MSPSS** *Mean ± SD*	**P value**
Sex	Male Female	64.2 ± 8.65 59.3 ± 13.82	0.07[1]
Marital status	Married Single	60.5 ± 12.4 64.9 ± 9.05	0.08[1]
Residence	Rural Urban	60 ± 12.17 66.1 ± 9.07	**0.005[1]**
Type of burn	Flame Scald Electrical Chemical	61.3 ± 10.83 62 ± 13.92 62.4 ± 12.23 71.5 ± 6.35	0.15[2]
Degree of burn	1st, 2nd degree 2nd,3rd degree 1st,2nd,3rd degree 3rd degree	50.4 ± 17.17 65.4 ± 11.41 63.2 ± 8.43 61	**0.008[2]**

**[1]Mann-Whitney U test, [2]Kruscal-Wallis test, Non-significant: P >0.05, Significant: P ≤0.05*

Table 7: Association between IES-R Scores and demographic & burn characteristics among burn patients

Variables		**IES-R** *Median (IQR)*	**P Value**
Sex	Male Female	32.8 ± 6.79 34 ± 7.21	**0.01[1]**
Marital status	Married Single	32.6 ± 6.96 35 ± 6.85	0.09[1]
Residence	Rural Urban	33.8 ± 6.56 32.4 ± 7.86	0.29[1]

Type of burn	Flame Scald Electrical Chemical	33.6 ± 6.89 32.1 ± 6.65 34.4 ± 9.99 34 ± 1.15	0.87[2]
Degree of burn	1st, 2nd degree 2nd,3rd degree 1st,2nd,3rd degree 3rd degree	34.8 ± 8.2 38.3 ± 7.52 33.3 ± 6.49 25	**<0.001[2]**

**[1]Mann-Whitney U test, [2]Kruscal-Wallis test, Non-significant: P >0.05, Significant: P ≤0.05*

DISCUSSION

Prevalence of Anxiety Symptoms

The study found that [11.7%] had mild anxiety, [30.8%] had mild to moderate anxiety, [28.3%] had moderate to severe anxiety and [29.2%] experienced extreme anxiety due to their HAM-A score of more than 30. Regarding HAM-A Scores, there was a statistically significant difference in the patient's marital status and place of residence; those who were single, female, or lived in an urban region had higher HAM-A scores.

As per our findings, all members of the Jain et al. study sample had mild to moderate anxiety symptoms. On the other hand, males experienced slightly higher rates of anxiety symptoms than females. Severe anxiety was present in 19.6% of Grade I instances, 13.5% of Grade II cases, and 17.6% of Grade III cases, but the differences were not statistically significant. In contrast to 8.2% of those with superficial burns, serious anxiety affected 25.5% of people with extensive burns [20].

Male patients in the aforementioned study had a higher prevalence of anxiety, which was an unexpected finding. Male anxiousness may have been more common because of variables such as fear of deformity, concerns about the future and going back to work, and the high cost of therapy. The majority of the men in their study were married and employed, but because it would not forward the goals of the study, differences in employment and marital status were not examined [20].

However, the majority of investigations, including Morris et al.'s study, have found a similar incidence in both sexes; these findings are at odds with our own. [21].

Bhatti et al. observed that patients' anxiety symptoms ranged from mild to severe when assessing the degree of anxiety in their sample. On the other hand, there were significant differences in the degree of burn and anxiety level. 69.5% of patients in the group of subjects [n=105, 47%] who had superficial burns reported having mild anxiety. The lowest percentage of patients—only 3.8% [n=4]—had severe anxiety, whereas only 28 [26.6%] had moderate anxiety. Patients with deep burns showed a similar pattern, although their rate of serious anxiety was much higher (26%). There was statistical significance here [22].

Prevalence of Depressive Symptoms

The results indicated that none of the patients had mild depression; instead, 15% had moderate depression, with a score between 14 and 18, 12.5% had severe depression, with a score between 19 and 22, and 72.5% had very severe depression, with a score exceeding 22 on the HAM-D. Patients' marital status and place of residence showed a statistically significant difference in HAM-D scores, with single patients and patients living in metropolitan areas scoring higher. The HAM-D Scale revealed a noteworthy positive connection between the total body surface area [TBSA] burnt and the severity of depression.

According to current study results, a significant portion [n=95] of the sample that Jain et al. investigated showed signs of depression. The majority of them had symptoms that ranged from moderate to severe. Extremely severe symptoms were marginally more common in female participants than in male ones. Although the difference was not statistically significant, 56.6% of Grade I cases 54.0% of Grade II and 47.1% of Grade III cases experienced severe to very severe depression. Of individuals who sustained facial burns, 64.9% suffered from serious to very severe depression. Compared to cases with superficial burns (20.4%), 52.9% of cases with extensive burns reported extremely severe depression [20].

In contrast to our findings, the investigation of the association between depression and the

surface area of burn in the study by Pavoni et al. revealed that the individuals' degree of depression was unaffected by the total body surface area [TBSA] involved. The same applied to anxiousness [23].

According to current study results, the degree of anxiety and depression was positively correlated with the total body surface area affected, as demonstrated by Linzette et al [24].

Consistent with earlier studies, Loey et al. demonstrated that there is still a strong correlation between the degree of depression and facial burns, indicating that facial deformity is a risk factor for post-burn melancholy [25].

In agreement with current study results, Bhatti et al. clarified that depression was seen in every person across all grade levels. The majority of patients (n = 37) report having mild symptoms. These patients had burns that were only superficial. In this category, the proportion of patients with moderate to severe depression symptoms was about equal. The percentage of very severe depression was highest in deep burn patients [n=54, 45.3%], followed by severe depression at 40%. In both categories, there was a statistically significant difference [22].

Prevalence of Disturbed Self-image

The study found that none of the patients had a high self-image, [21.7%] had a moderate self-image, [50.8%] had a low self-image; on the other hand, and [27.5%] had a very low self-image,. Self-image assessment scale scores were higher among the female sex, higher among single patients, and higher among third-degree burn patients, indicating a statistically significant correlation between sex, marital status, and burn degree.

In El-Sayed et al.'s study, the biggest number of burned patients had burn injuries that covered 20% to less than 40% of their total body surface area (TBSA). He found that there was a significantly significant positive association between the overall scores of self-image and the total body surface area. This indicates that poor or extremely low self-image was present in the burned patients with significant body surface areas. This could be the case since any modification to one's physical composition would likely induce self-concept disturbance, particularly if it resulted from a significant TBSA [26].

In contrast to current study findings, Robert et al.'s study at the University of Texas Medical Branch in Galveston on disfiguring burn scars and teenage self-esteem revealed that the mean percentage of total body surface area burned was 39% and that adolescents with disfiguring burn scars felt as valuable as their peers overall [27].

In a separate study, Jain et al. examined the degree of anxiety, sadness, and self-esteem in burn patients while also examining several characteristics associated with burns that may impact them. They discovered that TBSA and face burns did not significantly correlate with anxiety, despair, or self-esteem [20].

El-Sayed et al. found a strong correlation between the overall self-image scores of the patients under study and their educational attainment. The fact that secondary school students made up more than half of the study sample and that burned children are more self-conscious about their bodies at this age, particularly if they have deformities, disfiguring scars, or contractures, may help to explain the study's findings [26].

All of these result in burned children maybe never being able to become independent, having a disrupted position in the family and society, and having trouble understanding and accepting individuals around them. Additionally, as was evident in the study of, there was a disturbance in the level of contentment and trust toward others and themselves Toolaroud et al. [28].

The study by He et al., which noted that the self-image level of burn victims varied in different genders and education levels, corroborated these findings. Furthermore, compared to individuals with lower education levels, those with higher education levels had superior study abilities and self-evaluation scores. Moreover, there was a strong correlation between birth order and the total self-image ratings. This could indicate that the burned kids who placed three or four or higher among their siblings had very poor or negative self-esteem [29].

In contrast to what we found, El-Sayed et al.'s study found no significant correlation between total self-image and either gender or age [26].

Degree of Social Support

Our findings showed that [3.3%] had low social support while [28.3%] had moderate social support and [68.3%] had high social support as their mean scale score ranged from 5.1 to 7 within MSPSS. Patients with second and third-degree burns as well as those living

in rural regions had higher MSPSS ratings, indicating a statistically significant relationship between the two variables.

In a similar study by Waqas et al., the Mean overall MSPSS score was 57.64 [SD 13.57] [30]. In another study, 48.8% of respondents reported they have enough social support from their immediate family, 73.82% from their extended family and friends, and 46.2% from their romantic partners, as measured by the Multidimensional Self-Reporting Scale [MSPSS] by Naveed et al. [31].

In this regard, Shepherd et al. clarified that helping people deal with social appearance anxiety would be made simpler by understanding the clinical and sociodemographic traits that may influence anxiety as well as the elements that can lessen anxiety. Support—more especially, the support of friends and family as well as social support—is one of these elements. [32].

Additionally, Atik et al. found that appearance anxiety is reduced in patients with strong social support and that social support is helpful in situations like mastectomy and hemodialysis, which heighten social appearance anxiety [33].

Ayhan et al. discovered no significant link between the perceived social support and social appearance anxiety of patients with burn injuries, despite the high reported social support of these patients (68.34 ± 18.08) in the current study. Furthermore, the patients' social appearance anxiety was not greatly impacted by the individuals they lived with [34].

According to these findings, Zaboli et al. concluded that, in contrast to other patient groups, the support received by people with burn injuries, which can leave permanent scars on the body and cause them to isolate themselves from their social environments, including family and friends, is ineffective in assisting them in overcoming social appearance anxiety [35].

Prevalence of PTSD

The current study found that [41.7%] had no possible diagnosis of post-traumatic stress disorder while [58.3%] had a possible diagnosis of Post-traumatic stress disorder according to the IES-R Scores. Given that IES-R scores were higher in the female sex and among 2nd and 3rd-degree burns, there was a statistically significant correlation between the impact of the event scale and sex and burn degree.

The IES-R total scores and the three subscale scores did not substantially alter over time in the entire sample, as demonstrated by the findings of Sveen et al. Nevertheless, four unique patterns of PTSD symptoms throughout time were found using cluster analysis: robust [40%], recovery [10%], delayed [32%], and chronic [18%] trajectories [36].

In a prior research of injury survivors, O'Donnell et al. observed that patients who acquired PTSD saw an increase in symptom avoidance within the first 12 months following injury [37].

The following were the study's limitations: Since the study was a cross-sectional one conducted at a single site, its sample might not be entirely representative of people with burns. Since there was no long-term follow-up, the assessment of mental comorbidity was only done once, which means it may have underestimated the incidence of psychiatric sequelae that developed later in the course of the illness. The rating systems employed in different studies may differ, which could further muddy the findings. Additionally, we neglected to include a number of environmental, societal, and personal aspects that might have exacerbated the patients' psychological issues.

CONCLUSION

Burns, which have a lifelong impact on a person's physical and mental health, are among the most horrifying experiences one can have. Research on the psychological consequences of burns, including depression, anxiety, PTSD, and distorted self-image, is necessary to identify the warning indicators of present psychological problems and predict those that may arise in the future. Better care will be possible as a result, improving the patient's quality of life.

As we summarize the most recent recommendations for the care of burn patients, we advise paying close attention to our findings. In addition, more researches are needed to be done to fully examine this problem. All cases must be evaluated by a psychiatrist at least once during the inpatient stay, and all burn patients must undergo routine screening for psychiatric morbidity. It is equally critical that the burns unit staff be sensitive to the psychological requirements of the patients. To further understand the

correlations and causes at the intersection of psychiatric issues and burn injuries, future research must concentrate on long-term studies in a variety of population groups.

DECLARATION OF INTEREST

The authors report no conflicts of interest. The authors are responsible for the content and writing of the paper.

FUNDING INFORMATION

None declared

REFERENCES

1. Emami SA, Haghdoost Z, Moghadamnia MT, Kazemnezhad LE. Life satisfaction of patients with burn injuries admitted to Velayat Burn & Plastic Surgery Center in Rasht, 2017. J Cosmet Dermatol. 2019;9(4):261-271.
2. Bhatti DS, Ain NU, Zulkiffal R, Al-Nabulsi ZS, Faraz A, Ahmad R. Anxiety and depression among non-facial burn patients at a tertiary care center in Pakistan. Cureus. 2020; 12(11):1-5.
3. Zaman, N. I., Zahra, K., Yusuf, S., & Khan, M. A. (2023). Resilience and psychological distress among burn survivors. Burns, 49(3), 670-677.
4. Fardin, A., Rezaei, S. A., & Maslakpak, M. H. (2020). Non-pharmacological interventions for anxiety in burn patients: A systematic review and metaanalysis of randomized controlled trials. Complement therap in med, 49, 102341.
5. Sadeghi, N., Azizi, A., Asgari, S., & Mohammadi, Y. (2020). The effect of inhalation aromatherapy with damask rose essence on pain intensity and anxiety in burned patients: A single-blind randomized clinical trial. Burns, 46(8), 1933- 1941.
6. Sibbett SH, Carrougher GJ, Pham TN, Mandell SP, Arbabi S, Stewart BT, et al. Burn survivors' perception of recovery after injury: A Northwest Regional Burn Model System investigation. Burns. 2020;46(8):1768-1774.
7. Anderson, S. E. (2023). Physical and Psychological Impacts of Burn Injuries on the Pediatric Population and Their Families: An Occupational Therapy Perspective.
8. Rencken, C. A., Harrison, A. D., Aluisio, A. R., & Allorto, N. (2021). A qualitative analysis of burn injury patient and caregiver experiences in Kwazulu-Natal, South Africa: Enduring the transition to a post-burn life. EBJ, 2(3), 75-87.
9. Spronk, I., Legemate, C. M., Dokter, J., Van Loey, N. E., van Baar, M. E., & Polinder, S. (2018). Predictors of health-related quality of life after burn injuries: a systematic review. Crit. Care, 22, 1-13.
10. Baldursdottir, L., Zoega, S., Audolfsson, G.,
11. Fridriksdottir, V., Sigurjonsson, S. Y., & Ingadottir, B. (2021). Long term effects of burn injury on health-related quality of life of adult burn survivors in Iceland: A descriptive cross-sectional study and validation of the Icelandic version of the Burn Specific Health Scale-Brief (BSHS-B). Laeknabladid, 107(12), 581-588.
12. Meyer, W. J., Martyn, J. J., Wiechman, S., Thomas, C. R., & Woodson, L. (2018). Management of pain and other discomforts in burned patients. In Total burn care (pp. 679-699). Elsevier.
13. First MB. Structured clinical interview for DSM-IV-TR axis I disorders, research version, patient edition (SCID-I/P). Biometrics research. 2002.
14. El Missiry A, Sorour A, Sadek A, Fahy T, Abdel Mawgoud M, Asaad T Homicide and psychiatric illness: an Egyptian study [MD thesis]. Faculty of Medicine, Ain Shams University, Cairo. 2004.
15. HAMILTON M. A rating scale for depression. J Neurol Neurosurg Psychiatry. 1960 Feb;23(1):56-62.
16. Fateem L. Arabic manual of Hamilton Anxiety Scale, translated and adapted by Lotfy Fateem. Cairo: The Anglo-Egyptian Library. 1998.
17. Abd-Elgawad A. Self-image assessment scale. Society and the adolescent self-image, Unpublished Master Thesis, Faculty of Nursing, Cairo University, Egypt, 1995; PP: 119-121.
18. Zimet GD, Dahlem NW, Zimet SG, Farley GK. The multidimensional scale of perceived social support. Journal of personality assessment. 1988 Mar 1;52(1):30-41.
19. Weiss DS. The impact of event scale: Revised. In J. P. Wilson & C. S. Tang (Eds.), Cross-cultural assessment of psychological trauma and PTSD. New York: Springer. 2007; (pp. 219–238).
20. Davey C, Heard R, Lennings C. Development of the Arabic versions of the impact of events Scale-Revised and the posttraumatic growth inventory to assess trauma and growth in middle Eastern refugees in Australia. Clinical Psychologist. 2015 Nov 1;19(3):131-9.
21. Jain M, Khadilkar N, De Sousa A. Burn-related factors affecting anxiety, depression and self-esteem in burn patients: an exploratory study. Ann Burns Fire Disasters. 2017 Mar 31;30(1):30-34.
22. Morris LD, Louw QA, Grimmer-Somers K. The effectiveness of virtual reality on

23. reducing pain and anxiety in burn injury patients: a systematic review. Clin J Pain. 2009 Nov-Dec;25(9):815-26.
24. Bhatti DS, Ul Ain N, Zulkiffal R, Al-Nabulsi ZS, Faraz A, Ahmad R. Anxiety and Depression Among Non-Facial Burn Patients at a Tertiary Care Center in Pakistan. Cureus. 2020 Nov 5;12(11):e11347.
25. Pavoni V, Gianesello L, Paparella L, Buoninsegni LT, Barboni E. Outcome predictors and quality of
26. life of severe burn patients admitted to intensive care unit. Scand J Trauma Resusc Emerg Med. 2010 Apr 27;18:24.
27. Morris LD, Louw QA, Crous LC. Feasibility and potential effect of a low-cost virtual reality system on reducing pain and anxiety in adult burn injury patients during physiotherapy in a developing country. Burns. 2010 Aug;36(5):659-64.
28. van Loey NE, van Beeck EF, Faber BW, van de Schoot R, Bremer M. Health-related quality of life after burns: a prospective multicenter cohort study with 18 months follow-up. J Trauma Acute Care Surg. 2012 Feb;72(2):513-20.
29. El-Sayed SM, Amal M, Hady RF. Effect of Educational Program on Self-Image and Coping Strategies among Burned Children during Rehabilitation Phase. 2017.
30. Robert R, Meyer W, Bishop S, Rosenberg L, Murphy L, Blakeney P. Disfiguring burn scars and adolescent self-esteem. Burns. 1999 Nov;25(7):581-5.
31. Toolaroud PB, Nabovati E, Mobayen M, Akbari H, Feizkhah A, Farrahi R, et al. Design and usability evaluation of a mobile-based-self-management application for caregivers of children with severe burns. Int Wound J. 2023 Sep;20(7):2571-2581.
32. He M, Feng ZZ, Zhang DJ, Yang ZC. [Investigation and analysis of the self-esteem level and social adaptation ability of hospitalized burn patients]. Zhonghua Shao Shang Za Zhi. 2006 Aug;22(4):288-90. Chinese. PMID: 17175647.
33. Waqas A, Turk M, Naveed S, Amin A, Kiwanuka H, Shafique N, et al. Perceived social support among patients with burn injuries: A perspective from the developing world. Burns. 2018 Feb;44(1):168-174.
34. Naveed M, Anwar M, Iqbal Z. Post-traumatic stress disorders and perceived social support in patients with burn injury: a study of pak italian modern burn center Multan. BMC Journal of Medical Sciences. 2023 Jan 8;4(1):65-70.
35. Shepherd L, Reynolds DP, Turner A, O'Boyle CP, Thompson AR. The role of psychological flexibility in appearance anxiety in people who have experienced a visible burn injury. Burns. 2019 Jun;45(4):942-949.
36. Atik D, Atik C, Asaf R, Cinar S. The Effect of Perceived Social Support by Hemodialysis Patients on their Social Appearance Anxiety [Hemodiyaliz Hastalarında Algılanan Sosyal Desteğin Sosyal Görünüş Kaygısına Etkisi]. Medicine Science. 2015 Dec 12;4(2):2210-23.
37. Ayhan H, Savsar A, Yilmaz Sahin S, Iyigun E. Investigation of the relationship between social appearance anxiety and perceived social support in patients with burns. Burns. 2022 Jun;48(4):816-823.
38. Zaboli Mahdiabadi M, Farhadi B, Shahroudi P, Shahroudi P, Hekmati Pour N, Hojjati H, et al. Prevalence of anxiety and its risk factors in burn patients: A systematic review and meta-analysis. Int Wound J. 2024 Feb;21(2):e14705.
39. Sveen J, Ekselius L, Gerdin B, Willebrand M. A prospective longitudinal study of posttraumatic stress disorder symptom trajectories after burn injury. J Trauma. 2011 Dec;71(6):1808-15.
40. O'Donnell ML, Elliott P, Lau W, Creamer M. PTSD symptom trajectories: from early to chronic response. Behav Res Ther. 2007 Mar;45(3):601-6.

Table (S1): Correlation of psychiatric illness with Hamilton depression scale Scores

Variable	HAM-D Scores	
	r	P
Self-image Assessment Scale Scores	0.477	**<0.001**
MSPSS Scores	0.036	0.69
IES-R Scores	0.038	0.68

**Spearman's rank correlation coefficient test, Non-significant: P >0.05, Significant: P ≤0.05*

Table (S2): Correlation between scores of applied scales and Length of hospitalization

Variable	length of hospitalization	
	r	P
Hamilton anxiety scale Scores	0.691	**<0.001**
Hamilton depression scale Scores	0.542	**<0.001**
Self-image assessment scale Scores	0.179	0.164
MSPSS Scores	-0.107	0.406
IES-R Scores	0.081	0.530

**Spearman's rank correlation coefficient test, Non-significant: P >0.05, Significant: P ≤0.05*

To Cite:

Abdelsalam, H., Fawzy, N., Elmasry, N., Ahmed, E., Khalil, Y. Prevalence of Depressive symptoms, Anxiety symptoms, disturbed Self Image and Role of Social Support in Burn Patients. *Zagazig University Medical Journal*, 2024; (1563-1575): -. doi: 10.21608/zumj.2024.287863.3383