SELF-ESTEEM AND SOCIAL SUPPORT: PREDICTORS OF PSYCHOLOGICAL WELL-BEING IN SEVERE BURN SURVIVORS

ESTIME DE SOI ET SOUTIEN SOCIAL : PRÉDICTEURS DU BIEN-ÊTRE PSYCHOLOGIQUE CHEZ LES SURVIVANTS DE BRÛLURES GRAVES

Ghorbel I.,[1,2,3]✉ Moalla S.,[1,2,3] Frikha O.,[1,2,3] Agrebi A.,[1,2,3] Abouda A.,[4] Ennouri KH.[1,2,3]

[1] Department of Plastic, Reconstructive and Aesthetic Surgery, Habib Bourguiba University Hospital of Sfax, Tunisia
[2] Medical School of Sfax, University of Sfax, Sfax, Tunisia
[3] Research Laboratory, Evaluation and Management of Locomotor System Pathologies – LR20ES09
[4] Higher School of Health Sciences and Technology of Sfax, University of Sfax, Sfax, Tunisia

SUMMARY. Burns are a major life altering event affecting the physical well-being of an individual and often resulting in emotional distress amongst the victims. We sought to explore the complex dynamics between social support and adult burn victims, aiming to verify an association between them and explore factors associated with self-esteem and factors predictive of self-esteem. We conducted a retrospective cross-sectional correlational predictive study in the Department of Plastic Reconstructive and Aesthetic Surgery and in the Burns Unit of Habib Bourguiba University Hospital in Sfax between January 2012 to December 2022. Thirty-three patients were included. Their mean age was 37.88 years (range: 19-55 years) with a male predominance (sex ratio=1.576/1). The average self-esteem score was 29.45±4.36, with 51.5% of patients showing low self-esteem. 48.5% of patients received significant social support, primarily from family (63.6%). Low self-esteem seems to be a major hurdle in the path to emotional wellbeing for burn survivors and should be a focal point in medical care.

Keywords: social support, self-esteem, major burns, quality of life

RÉSUMÉ. *Les brûlures représentent un traumatisme majeur, altérant profondément l'état de santé physique des patients et générant fréquemment une détresse psychologique significative. Cette étude visait à explorer la relation complexe entre le soutien social et les adultes victimes de brûlures, en cherchant à vérifier l'existence d'une association entre ces deux éléments, et à identifier les facteurs liés à l'estime de soi ainsi que ceux prédictifs de son niveau. Nous avons mené une étude rétrospective, transversale, corrélationnelle et prédictive au sein du service de chirurgie plastique, reconstructrice et esthétique et du centre des brûlés de l'hôpital universitaire Habib Bourguiba de Sfax, entre janvier 2012 et décembre 2022. L'étude a inclus 33 patients, d'un âge moyen de 37,88 ans (extrêmes : 19–55 ans), avec une prédominance masculine (sex-ratio = 1,576/1). Le score moyen d'estime de soi était de 29,45 ± 4,36, avec 51,5 % des patients présentant une faible estime de soi. Par ailleurs, 48,5 % des patients bénéficiaient d'un soutien social élevé, principalement d'origine familiale (63,6 %). Une faible estime de soi semble constituer un obstacle majeur au bien-être psychologique des patients brûlés, et doit, de ce fait, être intégrée comme un axe prioritaire de la prise en charge globale.*

Mots-clés : *soutien social, estime de soi, brûlures graves, qualité de vie.*

✉ Corresponding author: Ghorbel Iyadh, MD, Department of Plastic, Reconstructive and Aesthetic Surgery, Habib Bourguiba University Hospital, Ferdaws Street 3029, Sfax, Tunisia. Email: iyadh_ghorbel@medecinesfax.org
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Introduction

A **burn** is a severe traumatic event that significantly impacts both physical and psychological health, with the potential to disrupt a person's life and even lead to death.[1,2] Burns are the second leading cause of death after road accidents[3], and the fourth most common traumatic injury worldwide, resulting in approximately 180,000 fatalities each year.[4]

Burns are classified by their depth and the area affected, with larger burns (BSA ≥20%) often involving various burn depths, leading to systemic inflammatory responses.[5,6] Severely burned patients face physical, psychological and social challenges, including disfigurement and functional limitations, which can deeply affect their self-esteem and social interactions.[7]

As medical advancements improve survival rates, more burn survivors nowadays live with visible scars in a society where physical appearance is highly valued. This can lead to significant psychological distress, as visible scars negatively impact self-esteem, which is closely linked to an individual's mental and emotional well-being.[1,8] Research shows that **social support** plays a crucial role in mitigating these effects, improving self-esteem, and enhancing the overall quality of life of burn survivors.[9]

Self-esteem reflects an individual's perception of their value, and damage to it can hinder coping abilities, leading to harmful psychological and physical outcomes.[10,11] Social support, which includes emotional, instrumental and informational resources, is key to helping burn patients cope with their injuries and adjust to life post-burn.[4,12] Studies confirm that a strong support network is associated with higher self-esteem and better rehabilitation outcomes.[9]

Given the multifaceted nature of burn recovery, care must involve a multidisciplinary approach, focusing not only on the physical aspects of healing but also on psychological support and long-term well-being.[13,14] Addressing self-esteem and social support can significantly improve burn patients' quality of life, making these areas essential in burn rehabilitation.[15]

Materials and methods

Ethical considerations

This study was approved by the Ethics Committee of the Higher School of Health Sciences and Techniques in Sfax, Tunisia. Authorization was granted to access patient files, and informed consent was obtained from participants. They were informed about the voluntary nature of the study and could withdraw at any time, with their data remaining confidential.

Participants

The study focused on patients aged 18-64, hospitalized for severe burns (BSA ≥20%) in the Plastic Reconstructive and Aesthetic Surgery Department and the Burns Unit of Habib Bourguiba University Hospital in Sfax, Tunisia.

Inclusion criteria (*Table I*)
Severe burns (BSA ≥20%)
Minimum 6 months post-healing of lesions
Deep second-degree burns or greater

Exclusion criteria (Table I)
Refusal to participate
Neuropsychological disorders
Incomplete questionnaires

Data collection

Data were collected from patient records, focusing on socio-demographic, accident, burn, and clinical characteristics. A structured form was used to capture relevant information, including:

Socio-demographic factors: age, gender, socio-economic status, etc.

Accident: cause, type, etc.

Burn characteristics: location, extent, depth

Clinical: hospital stay, sequelae, outcomes

Table I - Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
- Patients aged 18 to 64 years	- Refusal to participate in the study
- Severe burns (BSA ≥20%)	- Neuropsychological disorders
- Minimum 6 months post-healing of all lesions	- Incomplete questionnaires
- Deep second-degree burns or more	

Measuring instruments

Self-esteem amongst our patients was evaluated using Rosenberg Self-Esteem Scale (RSES)[16,17] and the overall perceived Social Support was calculated using the Multidimensional Scale of Perceived Social Support (MSPSS)[18,19] (*Table II*).

Course of the study

Eligible patients were contacted by phone to confirm their details and invite them to a face-to-face consultation, where medical assessments and questionnaire completion occurred. For patients unable to attend, questionnaires were sent via email or WhatsApp®.

Data analysis

Data were analyzed using SPSS (version 26). Pearson's correlation test was used to assess the relationship between social support and self-esteem (if normally distributed). For other analysis, Pearson and Spearman correlation tests, ANOVA, Kruskal-Wallis, Mann-Whitney U, and logistic regression were used. Statistical significance was set at $P < 0.05$.

Table II - Measuring instruments

Instrument	Purpose	Description
Rosenberg Self-Esteem Scale (RSES)	Measure overall self-esteem	10-item scale (Arabic version), rated on a 4-point Likert scale. Total score ranges from 10 to 40; higher scores indicate higher self-esteem [15].
Multidimensional Scale of Perceived Social Support (MSPSS)	Measure perceived social support	12-item scale, measuring support from family, friends and significant others on a 7-point Likert scale. Scores range from 12 to 84; higher scores indicate higher support [18].

Results

The study focused on a sample of patients with an average age of 37.88 years (range: 19-55 years), of whom 78.8% were men. The majority of participants lived in urban areas (63.6%) and had a low socioeconomic status (54.5%). In terms of education, 54.5% had completed primary school, and 57.6% were married. Regarding employment, 72.7% were working, with 45.8% in the liberal sector.

The majority of accidents were domestic (80.6%) and individual (93.9%), with thermal agents (84.8%) such as flames (78.8%) being the primary cause. Burns predominantly affected the upper limbs (84.8%) and lower limbs (72.7%), with a median burned surface area of 25%. The depth of burns was mainly second-degree (84.8%) and third-degree (72.7%). The median duration of hospitalization was 30 days.

Regarding healing, 52.9% of patients followed a directed healing process, and 90.9% showed skin sequelae, with 60.6% experiencing minor dyschromia. The average self-esteem score was 29.45±4.36, with 51.5% of patients showing low self-esteem. The dimensions of acceptance, value, and attitude were the highest. In terms of social support, the average score was 58.91±15.8, with 48.5% receiving high social support, primarily from family (63.6%).

A significant positive correlation was found between social support (global, family, and friends) and self-esteem, with family and friends providing the greatest impact (*Figs. 1,2,3*). No statistically significant link was found between sociodemographic characteristics and self-esteem, except for profession, with those in liberal professions having higher self-esteem scores (*Table III*).

Regarding burn characteristics, burns to the face significantly impacted self-esteem ($p=0.008$), as did third-degree burns ($p=0.023$) (*Tables IV* and *V*). However, no significant correlation was found between the duration of hospitalization and self-esteem ($p=0.177$), nor between treatment type (directed healing, grafts, etc.) and self-esteem. Finally, multivariate analysis revealed that profession type was a significant predictor of self-esteem, with those in liberal professions having higher scores.

This summary highlights the connections between social support, burn characteristics, and self-esteem, as well as the impact of profession on patients' psychological well-being.

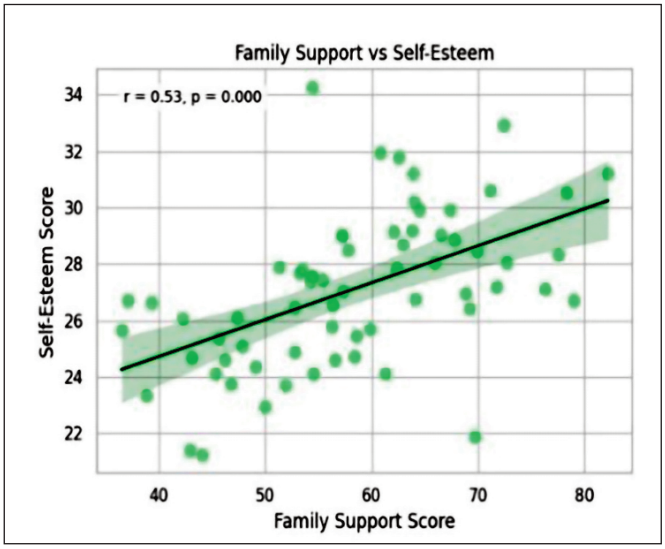

Fig. 1 - Impact of family support on self-esteem in severe burn patients
Each point represents the self-esteem score relative to perceived family support.
Self-esteem scores showed a moderate positive correlation with perceived family support ($r = 0.53$, $p < 0.001$), suggesting that familial involvement plays a contributory role in emotional recovery and self-concept rehabilitation.

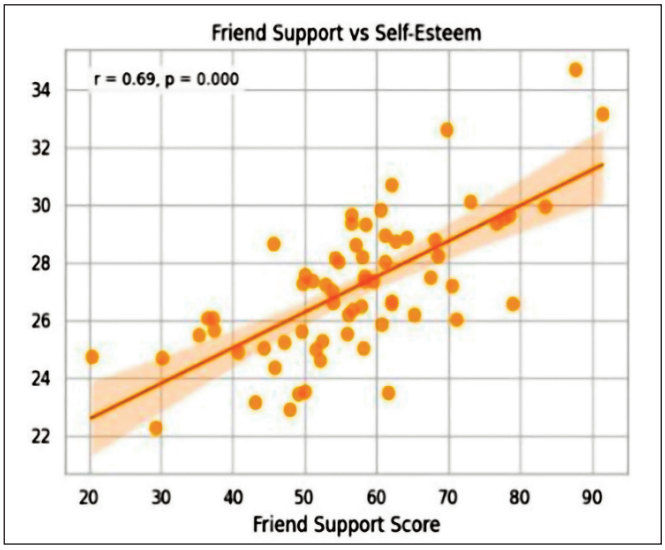

Fig. 2 - Relationship between friend support and self-esteem in severe burn patients
Data points show the relationship between friend support and self-esteem scores.
A strong positive correlation was noted between perceived friend support and self-esteem ($r = 0.69$, $p < 0.001$), emphasizing the critical role of peer and social network support in post-burn psychosocial outcomes.

Discussion

The primary goal of this study was to investigate the relationship between perceived social support and self-esteem in adult burn survivors and identify

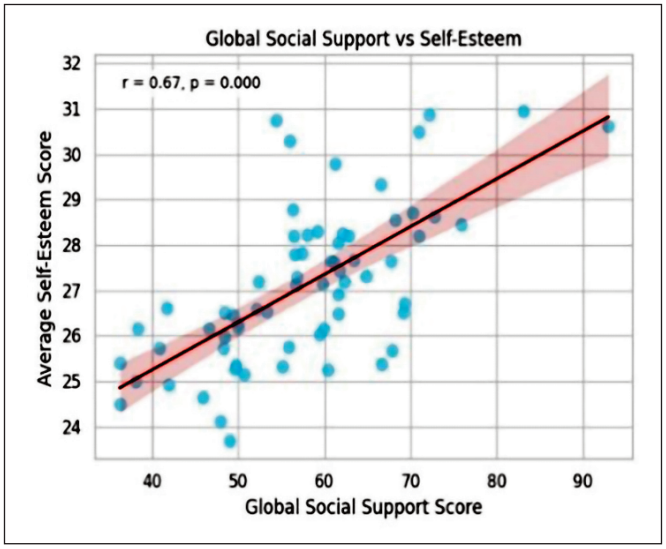

Fig. 3 - Relationship between global social support and its impact on self-esteem in severe burn patients
Each point represents a patient's average self-esteem score plotted against their global social support score.
A significant positive correlation was observed between global perceived social support and average self-esteem scores ($r = 0.67$, $p < 0.001$), indicating that higher overall support is associated with improved psychological well-being post-burn injury.

associated factors and predictors of variations in self-esteem scores. The findings of this study show that there is a positive and significant correlation between the two main variables: the higher the perceived social support, the higher the self-esteem of adult burn survivors. These results are consistent with existing literature. In Gorbani et al.'s study, titled "Relationship between self-esteem and perceived social support in burn patients in Sina Hospital of Tabriz," a positive and significant correlation between self-esteem and total social support was found.[8] Similarly, the systematic review by Mehrabi et al., "A systematic review of self-esteem and related factors among burn patients," found a positive and significant correlation between social support and self-esteem.[10]

When examining the dimensions of perceived social support, our study found that family support, friends' support, and support from significant others were all positively and significantly correlated with self-esteem. These results align with those of Gorbani et al., where positive correlations were also noted between social support from family, friends, and significant others, and self-esteem. Greater social support has been shown to enhance self-esteem, facilitate adaptation to existing conditions, and im-

Table III - Sociodemographic factors predictive of self-esteem

	Mean	SD	N	P*	Correlation coefficient
Self-esteem score	**29.45**	**±4.360**	**33**		
Age	37.88	±10.559	33	0.289	-0.050
Gender	1.21	±0.415	33	0.852	0.152
Geographical origin	1.36	±0.489	33	0.55	-0.109
Socio-economic level	1.45	±0.506	33	0.364	0.017
Education level	1.70	±0.847	33	0.315	0.275
Type of occupation	2.21	±0.977	24	**0.05**	**0.412**
Civil status	1.79	±0.696	33	0.154	0.012

*: linear logistic regression; N: number; SD: standard deviation

Table IV - Multivariate analysis of clinical explanatory factors (BSA and burn site) for variation in self-esteem score

	Mean	SD	N	P*	Correlational coefficient
Self-esteem score	**29.45**	**4.360**	**33**		
Burned skin area	27.33	7.503	33	0.515	-0.042
Face burn	1.45	0.506	33	**0.012**	**-0.451 (P=0.004)**
Neck burn	1.64	0.489	33	0.954	-0.096
Trunk burn	1.70	0.467	33	0.571	0.039
Burn on the abdomen	1.91	0.292	33	0.292	0.205
Burn on the upper limb	1.15	0.364	33	0.114	0.191
Hand burns	1.76	0.435	33	0.873	-0.006
Burn on the lower limb	1.27	0.452	33	0.095	-0.255 (P=0.076)
Burn on the buttocks	1.94	0.242	33	0.558	0.204
Burn on the perineum	1.94	0.242	33	0.444	0.086

*: linear logistic regression; N: number; SD: standard deviation

Table V - Multivariate analysis of clinical explanatory factors (burn depth and BSA) for variation in self-esteem score

	Mean	SD	N	P*	Correlational coefficient
Self-esteem score	**29.45**	**4.360**	**33**		
2nd degree superficial lesion	1.67	0.479	33	0.507	-0.225
Deep 2nd degree lesion	1.15	0.364	33	0.815	-0.143
3rd degree lesion	1.27	0.452	33	0.09	**-0.395 (p=0.011)**
Burn skin area	27.33	7.5	33	0.7	-0.041

*: linear logistic regression; N: number; SD: standard deviation

prove the process of rehabilitation.[5] Researchers suggest that social support helps burn survivors accept their injury, normalize their experiences, and create a sense of community, ultimately reducing feelings of isolation.[20] Social support also plays a crucial role in stress management and post-traumatic growth.[21] Although burn patients may face a long recovery, a high level of social support enables them to feel accepted, leading to a more positive outlook on their experiences and better overall mental health, thus improving their quality of life.[18]

Further analysis revealed a significant negative relationship between facial burns and self-esteem. Patients with facial burns had lower self-esteem, which is in line with the findings of Mehrabi et al.[10] and Faisal et al..[22] Facial burns are particularly devastating as they impact an individual's identity and social interaction. As the face is central to personal

communication and emotional expression, disfigurement from facial burns often leads to heightened social challenges.[1] Similarly, facial scars are strongly associated with higher levels of depression, as demonstrated by Selvamani et al..[23]

Moreover, a significant negative correlation was found between third-degree burns and self-esteem. Patients with third-degree burns reported lower self-esteem, consistent with the study by Jain et al., which showed that deep burns were associated with depression, anxiety, and poor body image.[2] Mehrabi et al. also found a significant negative association between burn depth and self-esteem.[10] This can be explained by the severe skin alterations caused by deep burns, leading to more noticeable and disfiguring scars, which significantly affect an individual's appearance.

Practical implications

This study emphasizes the importance of self-esteem in burn survivors and suggests several strategies for improving their psychological well-being:

Establish a support unit for burn patients, incorporating a multidisciplinary team of healthcare professionals, such as plastic surgeons, psychologists, nurses and physiotherapists.

Educate and train the families and close contacts of burn victims on the nature of burns, healing stages, and potential short- and long-term repercussions, with a particular focus on the psychological aspects of recovery.

Create support associations for burn victims that provide resources like counseling, rehabilitation programs and peer support. These associations would help provide emotional, physical and social support to burn victims and their families.

Implications for future research

Future studies should focus on developing and applying educational strategies aimed at preventing the psychosocial complications of burns. Emphasizing the importance of social support and self-esteem can enhance the quality of life of burn patients and safeguard their mental health and well-being.

Study limitations

Despite the strengths of this study, it had several limitations. The sample size was small, which made it difficult to perform robust bi- or multivariate statistical analyses. Additionally, the sample was not representative of the entire population of adult burn victims. A number of patients could not be contacted or had been lost to follow-up, affecting the validity of the results and explaining the small sample size. Selection bias also presented a challenge in this study. Furthermore, confounding factors such as burn severity, medical history and psychological support were not controlled for, which may have influenced the significance of the results. A prospective study with long-term follow-up would provide more insights into changes in self-esteem and social support over time in burn survivors.

Conclusion

The results of our study underscore the importance of self-esteem and perceived social support in adult burn survivors. It highlights the need to pay greater attention to psychosocial issues in this population. The study emphasizes the significance of recognizing and addressing psychiatric morbidity in burn survivors, particularly those with visible scars. Collaboration among psychologists, plastic surgeons and burn care teams, alongside regular screenings for depression and anxiety, could greatly improve the quality of life of burn survivors.

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