

ASSOCIATION BETWEEN SELF ESTEEM, SELF CARE AND TYPE OF BURN INJURY AMONG BURN PATIENTS

Khushnud Lamuel¹, Nida Noor², Rafia Naz³, Dr. Nasim Rafiq⁴, Amjad Ali⁵, Robina Majeed⁶^{1,2,3}BSN, Student, Shalamar Nursing College,⁴Phd in Nursing, Associate Professor & Principal, Shalamar Nursing College,⁵MSN, Assistant Professor, Shalamar Nursing College,⁶MPH, Senior Nursing Instructor, Shalamar Nursing College,¹Khushnudlamuel003@gmail.com, ²nida63507@gmail.com, ³kmushi247@gmail.com,⁴nasimtarik@yahoo.com, ⁵amjadalikmu233@gmail.com, ⁶robinamajeed75@gmail.comDOI: <https://doi.org/10.5281/zenodo.16886052>**Keywords**

Self Esteem, self-care, burn injury, burn Patients

Article History

Received on 16 May 2025

Accepted on 22 July 2025

Published on 16 August 2025

Copyright @Author

Corresponding Author: *

Amjad Ali

Abstract

Background: Burn injuries in Pakistan are a significant public health concern but have received limited research attention. According to the 2010 Global Burden of Disease report, the average mortality rate from injuries was 5.8 per 100,000 people in Pakistan. Burn victims often experience a range of psychological symptoms, from moderate issues such as fear, distress, and low self-confidence, to more severe conditions like depression and post-traumatic stress disorder (PTSD).

Objectives: To assess level of self-esteem and determine level of self-care among burn patients.

Method: An analytical cross-sectional study was conducted in two public hospitals in Lahore, Punjab, involving 134 patients selected through purposive sampling. Individuals with mental illness, comorbidities, or a history of psychotherapy were excluded. Data were collected using Rosenberg's Self-Esteem Scale and the Functional Assessment for Burns (FAB). Analysis was performed using SPSS-27, with results presented through graphs and frequency tables. Chi-square tests were used to assess associations between categorical variables, while Spearman's rank correlation evaluated relationships among continuous variables.

Results: Most burn patients were female (53.7%), single (53.7%), and from rural areas (51.5%). Nearly half (48.5%) were illiterate, based on their education level, while 63.4% were employed. Most participants (83.6%) fell under the moderate self-esteem category, and 46.3% fell under the low self-care category. The study found a negative correlation between burn severity and self-care scores ($p = 0.000$), while a positive correlation was observed between self-esteem and self-care ($p = 0.046$).

Conclusion: Most participants had moderate self-esteem and low self-care levels. Furthermore, patients with second-degree burns and low self-esteem exhibited poor self-care abilities. However, they demonstrated independence in various activities, such as signing their names and eating. It is recommended

that psychological and educational interventions be implemented to enhance self-care practices and improve self-esteem.

INTRODUCTION

Burns are injuries caused by heat, radiation, electricity, friction, or chemicals that damage the skin and underlying tissues, often leading to serious complications such as inflammation, metabolic imbalances, and organ failure (1). They are classified by skin depth from first-degree (superficial) to fourth-degree (deep tissue) burns (2).

Burn injuries are especially prevalent in low- and middle-income countries, notably South Asia, where they contribute significantly to morbidity and mortality, with millions affected worldwide annually (3).

There are over 2.4 million burn injury cases recorded worldwide each year, of which 650,000 require medical attention, 75,000 are admitted to hospitals, and 8,000–12,000 result in burn-related deaths (4). Severe burns cause physical disabilities, including deformities and scar contractures, and have profound psychological effects such as low self-esteem, social isolation, and post-traumatic stress, particularly when facial areas are involved (5).

Burns are the 11th greatest cause of preterm mortality and the second leading cause of disability in Pakistan (6). Treatment involves acute hospital care to ensure survival and wound closure, followed by long-term aftercare addressing scar management, physical rehabilitation, and psychological support, which can last years and requires multidisciplinary teamwork (7). The victim of burn is affected emotionally that can contribute to low self-perception. This emotional loss is the end outcome of the physical injury (8). The psychological effects of burns vary from patient to patient. Burn injury patients frequently

experience some common psychological issues including pain, worry, melancholy, post-traumatic stress disorder, concerns about physical deformities, and social isolation, all of which contribute to low self-esteem (9). Challenges in adherence to post-burn care can worsen outcomes, but self-management strategies involving patients, families, and healthcare providers can improve recovery and quality of life (10).

Material and Method: An analytical cross-sectional study was conducted over four months in Shaikh Zayed Hospital and Mayo Hospital, Lahore, Punjab, Pakistan, to investigate the relationship between self-esteem and functional ability in burn patients. The study included 134 patients aged 18-50 years with various types of burn injuries, selected purposively after excluding those with severe cognitive impairments, psychiatric conditions, chronic illnesses, or undergoing psychotherapy. Sample size was calculated using Cochran's formula based on a 10.2% anticipated frequency and 95% confidence level. Data were collected using an adopted questionnaire including Rosenberg's Self-Esteem Scale and the Functional Assessment for Burns (FAB), both demonstrating good reliability and validity. Questionnaires were distributed through nurses with informed consent, and data were analyzed via SPSS 21 and MS Excel using descriptive statistics, chi-square tests for categorical associations, and Spearman rank correlation for continuous variables, with normality confirmed by Kolmogorov-Smirnov and Shapiro-Wilk tests.

Results:

Table 1 Demographic data burn patients, gender, residence and marital Status			
		n	%
Gender	Male	62	46.3
	Female	72	53.7
Residence	Urban	65	48.5

Table

Marital Status	Rural	69	51.5
	Single	69	51.5
	Married	52	38.8
	Widow	8	6.0
	Divorced	5	3.7
	Total	134	100.0
<i>Analyze by frequency (n) and percentage (%)</i>			

1

presents the demographic data of 134 burn patients. The majority were female (72, 53.7%), from rural areas (69, 51.5%), and single (69, 51.5%).

Table 2: Demographic Data such as educational level, occupation and income			
		n	%
Education Level	Illiterate	65	48.5
	Literate	24	17.9
	Primary	14	10.4
	Secondary	13	9.7
	High	18	13.4
Occupation	Work	85	63.4
	Not Work	17	12.7
	House Wife	32	23.9
Income	Enough	91	67.9
	Not Enough	43	32.1
	Total	134	100.0
<i>Analyze by frequency 'n' and percentage '%'</i>			

Table 2 presents the demographic variables of 134 burn patients. Most were illiterate (65, 48.5%), followed by literate (24, 17.9%), highly educated (18, 13.4%), with primary (14, 10.4%) and secondary education (13, 9.7%). In terms of occupation, the majority were working (85, 63.4%), while others were housewives (32, 23.9%) or unemployed (17, 12.7%). Most participants (91, 67.9%) reported having enough income, while 43 (32.1%) did not.

Table 3: Burn information regarding place, type and cause of burn			
		n	%
Place of burn	In house	87	64.9
	Out the house	47	35.1
Type of burn	First degree	24	17.9
	Second degree	110	82.1
Causes of burn	Flame	74	55.2
	Hot fluid	18	13.4
	Chemical	24	17.9
	Electrical	18	13.4
	Total	134	100.0
<i>Analyze by frequency 'n' and percentage '%'</i>			

Table 3 summarizes burn injuries by location, type, and cause. Most burns occurred at home (64.9%) and were second-degree (82.1%). Flames were the leading cause (55.2%), followed by chemicals and hot liquids (17.9% each), and electrical burns (13.4%).

Table 4: Burn information regarding site and extend of burn to body other part			
		n	%
Site of burn	Nose	9	6.7
	Face	56	41.8
	Head	42	31.3
	Neck	9	6.7
	Hand	18	13.4
Extend of burn to other body part	Chest	14	10.4
	Abdomen	53	39.6
	Back	33	24.6
	Groin	14	10.4
	Other	20	14.9
	Total	134	100.0
<i>Analyze by frequency 'n' and percentage '%'</i>			

Table 4 shows the burn sites among patients. Common sites included the face (41.8%), abdomen (39.6%), and head (31.3%), followed by hands (13.4%), chest (10.4%), and nose (6.7%). For burn extent beyond the face, the back was most affected (24.6%), followed by other areas (14.9%) and the groin (10.4%).

Table 5: Self-esteem of the study participant regarding self-image				
	Frequency	Percent	X	S. D
Low self-esteem <20 score	13	9.7	19.70	7.855
Moderate self-esteem 20 to 30 score	112	83.6		
High self-esteem > 30 score	9	6.7		
Total	134	100	100.0	
<i>Analyzed by mean (x) and standard deviation (S.D)</i>				

Table 5 presents self-esteem scores of the participants. Most had moderate self-esteem (83.6%), while 9.7% had low and 6.7% had high self-esteem. The mean score was 19.70 with a standard deviation of 7.855, indicating moderate variability in scores.

Table 6: Level of self-care level among burn patients				
	Frequency	Percent	X	S.D
Low self-care: 9 to 20 score	62	46.3	24.23	3.959
Moderate self-care: 21 to 32 score	55	41.0		
High self-care: > 33 score	17	12.7		
Total	134	100.0	100.0	

Analyzed by mean (x) and standard deviation (S.D)

Table 6 shows the distribution of self-care scores among 134 individuals. Most had low self-care (46.3%), followed by moderate (41.0%) and high (12.7%) self-care levels. The average self-care score was 24.23. The standard deviation for the moderate group was 3.959, indicating greater variability in that category.

Table No 7: Association between the type of burn injury and Self-esteem of the study participants						
Type of burn injury	Self-Esteem			Total	r2	P-Value
	Low <20 Score	Moderate 20 to 30 score	High >30 score			
First Degree	8	62	7	77	-0.069	0.427
Second Degree	5	51	1	57		
Total	13	113	8	134		
Analyzed by Spearman Correlation with p less than 0.05						

Table 7 show no significant association was found between burn type and self-esteem ($p = 0.427$), with a weak negative correlation ($r = -0.069$). First-degree burn patients showed slightly higher self-esteem than second-degree patients.

Table No 8: Association between the type of burn injury and Self-care of the study participants						
Type of burn injury	Self-Care Ability			Total	r2	P-Value
	Low 9 to 20 Scores	Moderate 21 to 32 scores	High > 33 scores			
First degree	31	32	14	77	-0.181	0.036
second degree	31	23	3	57		
Total	62	55	17	134		
Analyzed by Spearman Correlation with p less than 0.05						

Hypothesis 1 shows a significant negative association between burn type and self-care ($p = 0.036$, $r = -0.181$). Participants with first-degree burns had higher self-care scores than those with second-degree burns, as shown in the table 8.

Table No 9: Association between the site of injury and Self-esteem of the study participant					
Site of burn injury	Self-esteem			Total	P-Value
	Low <20 score	Moderate 20 to 30 score	High > 30 score		
None	0	11	2	13	0.000
Face	11	19	0	30	
Head	2	49	3	54	
Neck	0	25	0	25	

Hand	0	9	3	12	
Total	13	113	8	134	
<i>Analyzed by Pearson Chi-Square with significance less than 0.05</i>					

Hypothesis 3 found a significant association between burn injury site and self-esteem ($p = 0.000$). Participants with visible facial burns had lower self-esteem compared to those with injuries on other sites.

Table No 10: Association between the self-esteem and Self-care of the study participant						
Self-esteem	Self-care ability			Total	r^2	P-Value
	Low 9 to 17 Score	Moderate 18 to 26 Score	High > 26 score			
Low <20 score	7	6	0	13	0.172	0.046
Moderate 20 to 30 score	53	47	13	113		
High > 30 score	2	2	4	8		
Total	62	55	17	134		
<i>Analyzed by spearman correlation test with significance less than 0.05</i>						

Hypothesis 4 shows a significant positive association between self-esteem and self-care ($p = 0.046$, $r = 0.172$). Participants with higher self-esteem tend to have higher self-care.

Discussion: In the present study of burn patients, females (53.7%) and rural residents (51.5%) were predominant, with most participants being single (51.5%) and nearly half illiterate (48.5%). The majority were employed (63.4%) with sufficient income (67.9%). These findings align with Shahid and colleagues in 2018, who reported female dominance and socioeconomic factors such as low literacy and economic status influencing burn risk. Urbanization and crowded living conditions may increase burn incidence (11). However, the study of ram and colleagues stated that the prevalence of burn cases in Lahore compared to other cities in Pakistan could be influenced by several factors. One potential factor is the population density and urbanization of Lahore, which may result in more crowded living conditions and higher risks of accidents (12). especially in rural households where traditional cooking methods heighten burn risk (13). Additionally, most burns occurred at home (64.9%), were second-degree (82.1%), and caused by flames (13.4%). The face was the most

common burn site (41.8%), with facial burns linked to higher depression and lower self-esteem (14). Comprehensive studies and data analysis would be needed to fully understand the reasons behind the disparity in burn cases between Lahore and other cities in Pakistan. Self-esteem was generally moderate among participants (15). with a negative association found between burn severity and self-esteem; those with first-degree burns reported higher self-esteem (16). This aligns with Shahid et al. (2018), who highlighted demographic and psychosocial factors affecting self-esteem in burn patients (15). A negative correlation was also observed between burn severity and self-care, with first-degree burn patients showing higher self-care scores than those with more severe burns (17). Visible burns, especially on the face, correlated with lower self-esteem, echoing findings by Selvamani and colleagues 2019 and Lim and colleagues 2022. Similarly, Nicolò and colleagues in 2020 reported lower self-esteem in patients with facial burns in

Pakistan.(18). A positive relationship between self-esteem and self-care was noted, confirming studies by Bagheri-Nesami and colleagues in 2016 and Marten & Greiner 2021, suggesting that higher self-esteem promotes better self-care. Psychological and social support interventions are recommended to improve self-esteem and quality of life in burn survivors (11). Participants demonstrated moderate self-care abilities, with independence in some daily tasks but needing support in others, supporting the efficacy of behavioral interventions in improving self-care (19). Psychological and educational programs are suggested to enhance self-care and life expectancy in burn patients (20). A previous cross-sectional study from two tertiary hospitals in Karachi, Pakistan, reported that most patients with facial burn scars had low self-esteem, with findings linking self-esteem levels to various demographic factors. Notably, Nicolò, Massaroni (21) 66% achieved below-average self-esteem, while 34% of the participants achieved above-average overall self-esteem (21). The present study shows that there is a positive association between self-esteem and self-care which means the persons with high self-esteem are having high self-care. Similarly, Bagheri-Nesami, Goudarzian (22) another study showed that there is positive and direct effect of self-care behaviors on self-esteem (22). Furthermore, Marten and Greiner (23) another study also confirms present results that there is significant relationship between self-care program and self-esteem (23). However, Ramadanti and Herdi (24) interpersonal relationships are among the factors that encourage adolescents to adapt to a new environment and to increase strength in life (24). The findings of Yalcin-Siedentopf, Pichler (25) another study will be used as baseline information to develop a mental health program in order to reduce mental health problems (25). This study reveals that the majority of participants possess a moderate level of self-esteem. Areas of concern include a lack of recognition of their positive qualities, a sense of inadequacy in comparison to others, a tendency to view themselves as failures, occasional feelings of worthlessness, limited self-importance in

themselves, and dissatisfaction with their self-image. Conversely, participants demonstrated a positive outlook on themselves, believing in their abilities and considering themselves capable for work to do.

Conclusion: The study revealed that most burn patients were rural, single females with low literacy but adequate income and employment. Moderate self-esteem and low self-care were common. First-degree burns were linked to better self-care, while facial burns correlated with lower self-esteem. A positive link between self-esteem and self-care was noted. Despite self-image struggles, many showed daily independence. The study underscores the need for psychological and educational support to enhance self-care and quality of life.

References

1. Jeschke MG, van Baar ME, Choudhry MA, Chung KK, Gibran NS, Logsetty S. Burn injury. *Nature Reviews Disease Primers*. 2020;6(1):11.
2. Shrivastava S, Das S, Das S, Singh R, Dhasmana S. A natural perspective on the management of burn wounds caused by acid and boiled wounds. *Suranaree Journal of Science & Technology*. 2023;30(2).
3. Balseven-Odabaşı A, Yıldırım MŞ, Akçan R, Yalçın SS, İnce T, Tümer AR, et al. Dark side of customs: scalding burns in childhood due to use of traditional teacup and teapot, in Turkey. *International journal of environmental health research*. 2023:1-8.
4. Abd Elalem SM, Shehata O, Shattla SI. The effect of self-care nursing intervention model on self-esteem and quality of life among burn patients. *Clin Nurs Stud*. 2018;6(2):79-90.

5. Tehranineshat B, Mohammadi F, Mehdizade Tazangi R, Sohrabpour M, Parviniannasab AM, Bijani M. A Study of the Relationship Among Burned Patients' Resilience and Self-Efficacy and Their Quality of Life. Patient Preference and Adherence. 2020;14:1361-9.
6. Bajwa MS, Sohail M, Ali H, Nazir U, Bashir MM. Predicting Thermal Injury Patient Outcomes in a Tertiary-Care Burn Center, Pakistan. Journal of Surgical Research. 2022;279:575-85.
7. Zahra S, Aziz Z, Ozigiabdullahi K. Effects of Educational Intervention on Self Esteem among Burn patients. Pakistan Journal of Medical & Health Sciences. 2023;17(06):124-.
8. Spronk I. VU Research Portal. 2023.
9. Kaya M, Karaman Özlü Z. Yanık Nedeniyle Tedavi Gören Hastalarda Yenilikçi Teknoloji: Sanal Gerçeklik. Arsiv Kaynak Tarama Dergisi. 2022;31(1).
10. Vorstandlechner V, Laggner M, Copic D, Klas K, Direder M, Chen Y, et al. The serine proteases dipeptidyl-peptidase 4 and urokinase are key molecules in human and mouse scar formation. Nature communications. 2021;12(1):6242.
11. Shahid F, Ismail M, Khan S. Assessment of quality of life in post burn survivors: a cross-sectional single-center first validation study from Pakistan. Burns open. 2018;2(1):35-42.
12. Ram H, Mangi A, Talpur MGA, Qadri NA, Kazi SAF. Medicolegal Aspect Analysis of Burn Cases in Liaquat University Hospital, Hyderabad. Journal of Islamabad Medical & Dental College. 2023;12(1).
13. Liu J, Yan Z, Yang F, Huang Y, Yu Y, Zhou L, et al. Exosomes derived from human umbilical cord mesenchymal stem cells accelerate cutaneous wound healing by enhancing angiogenesis through delivering angiopoietin-2. Stem cell reviews and reports. 2021;17:305-17.
14. Chukamei ZG, Mobayen M, Toolaroud PB, Ghalandari M, Delavari S. The length of stay and cost of burn patients and the affecting factors. International journal of burns and trauma. 2021;11(5):397.
15. Mehrabi A, Falakdami A, Mollaei A, Takasi P, Vajargah PG, Jafari H, et al. A systematic review of self-esteem and related factors among burns patients. Annals of Medicine and Surgery. 2022;84:104811.
16. Tehranineshat B, Mohammadi F, Mehdizade Tazangi R, Sohrabpour M, Parviniannasab AM, Bijani M. A study of the relationship among burned patients' resilience and self-efficacy and their quality of life. Patient preference and adherence. 2020:1361-9.
17. Lodha P, Shah B, Karia S, De Sousa A. Post-traumatic stress disorder (PTSD) following burn injuries: a comprehensive clinical review. Annals of burns and fire disasters. 2020;33(4):276.
18. Ozdemir A, Saritas S. Effect of yoga nidra on the self-esteem and body image of burn patients. Complementary therapies in clinical practice. 2019;35:86-91.
19. Selvamani I, Krishnan R, Natrajan V. Psychiatric morbidity, quality of life and self-esteem in patients with burn scars. Med-Pulse-Int J Psychol. 2019;10(1):1-6.
20. Lim WM, Kumar S, Ali F. Advancing knowledge through literature reviews: 'what', 'why', and 'how to contribute'. The Service Industries Journal. 2022;42(7-8):481-513.
21. Nicolò A, Massaroni C, Schena E, Sacchetti M. The importance of respiratory rate monitoring: From healthcare to sport and exercise. Sensors. 2020;20(21):6396.
22. Bagheri-Nesami M, Goudarzian AH, Mirani H, Jouybari SS, Nasiri D. Association between self-care behaviors and self-esteem of rural elderlies; necessity of health promotion. Materia socio-medica. 2016;28(1):41.

23. Marten O, Greiner W. EQ-5D-5L reference values for the German general elderly population. Health and quality of life outcomes. 2021;19:1-11.
24. Ramadanti R, Herdi H. Hubungan antara resiliensi dan dukungan sosial dengan stress akademik mahasiswa baru di Jakarta pada masa pandemi Covid-19. INSIGHT: Jurnal Bimbingan Konseling. 2021;10(2):150-63.
25. Yalcin-Siedentopf N, Pichler T, Welte A-S, Hoertnagl CM, Klasen CC, Kemmler G, et al. Sex matters: stress perception and the relevance of resilience and perceived social support in emerging adults. Archives of Women's Mental Health. 2021;24:403-11.

