Depression Affected by Burns Injury

Irwansyah Irwansyah1*
1Department of Surgery, Faculty of Medicine, Universitas Sriwijaya, Palembang, Indonesia

ARTICLE INFO

Keywords:
Burn Injury
Depression
Acute Injury

Corresponding author:
Irwansyah Irwansyah

E-mail address:
irwansyahbondan@gmail.com

The author has reviewed and approved the final version of the manuscript.

https://doi.org/10.37275/OAIJMR.v1i4.45

ABSTRACT

Burn injuries are defined as injuries caused by the application of heat, chemicals, electrical current or radiation to the external or internal surface of the body, which causes destruction of the tissue. Burns are acute, unpredictable and devastating forms of trauma which affect both the physical and psychological health of the victim. The patient who suffers from burn injuries can be subjected to various mental and psychological conditions that can adversely affect their health and wellbeing. Understanding the nature of their ailment and the impact it has on their health involves a detailed study of the nature of burn, socioeconomic factors, personal life, and reason for the injury. This literature review aims to describe depression related burn injury.

Introduction

Major depressive disorder (MDD) is currently the primary cause of disability worldwide1 and the World Health Organization predicts it will generate the greatest global burden by 2030.2 It is well established that the risk for MDD is partially mediated by genetic factors. The other factors also play a role in mediating the risk for MDD. Indeed, it is well established that environmental factors, especially stress and exposure to adverse life events, contribute to the risk.3

Burn injuries are defined as injuries caused by the application of heat, chemicals, electrical current or radiation to the external or internal surface of the body, which causes destruction of the tissue.4 Burns are acute, unpredictable and devastating forms of trauma which affect both the physical and psychological health of the victim.5 The patient who suffers from burn injuries can be subjected to various mental and psychological conditions that can adversely affect their health and wellbeing.

Understanding the nature of their ailment and the impact it has on their health involves a detailed study of the nature of burn, socioeconomic factors, personal life, and reason for the injury.6 These terrible life events cause extreme stress in these patients.7

With improving medical care, many patients survive the acute phase of recovery and are left to deal with the long-term psychological effects of burns, which are complex and vary from patient to patient.8 The most common psychological problems faced by burn injury patients are pain, anxiety, depression, post-traumatic stress disorder, concern about bodily disfigurement, social isolation and financial burden due to the prolonged duration of hospitalization and treatment required.9

Burn-related pain during surgical procedures and physical rehabilitation is known to be associated with anxiety, and studies have shown that procedural-pain-associated anxiety increases as therapy progresses.10 Pain,
anxiety and distress are known to be associated with post-traumatic stress disorder in burn victims, whereas patients with higher rates of anxiety report more intense background pain on subjective assessment.\textsuperscript{11} Predisposing factors such as grief and mourning, pain, social isolation during hospitalization and pre-burn depression have been associated with post burn depression.\textsuperscript{12} Burn scars often lead to disfigurement, potentially causing an altered body image, lack of effective social functioning, and poor quality of life for the patient.\textsuperscript{13} Subjective body image dissatisfaction is an important predictor of post burn psychological functioning 12 months post injury.\textsuperscript{14} A longer stay in the hospital has been associated with greater social isolation, a sense of loss of independence, economic dependency, loss of socio-occupational functioning and increased distress in patients.\textsuperscript{15} Despite the overlapping interface between burn injuries and psychiatric morbidity, psychological help for burn patients is still under addressed, and there is a need for a psychiatric team in the burns unit.\textsuperscript{16}

\textbf{Methods}

The researcher searched for all studies published between 01 January 2010 and 01 August 2021, using PubMed. The following keywords were applied during the literature search: "burn injury and depression and related factor." The researcher added additional studies through a manual search, which is relevant to this review. The inclusion criteria included male and female burn injury patients aged between 18-65 years, admitted or followed up in the burns department, who agreed to being interviewed and were within the period of 2-8 weeks post burn injury. Patients diagnosed with psychiatric disorders (except nicotine dependence) before the burn injury were excluded from the study. In the first step, the researcher assesses the titles and abstracts of the studies to exclude reports based on the criteria. In the second step, the researcher read and evaluated the full-text studies that met the requirements.

\textbf{Results}

The PubMed search results identified 173 potential studies. After reviewing the titles and abstracts from 173 studies, 3 studies were identified for possible inclusion in the review. After examining the full text of the 3 studies against the inclusion criteria, participants in each study were varied, 94 - 132 patients and the distribution of male and female participants in 2 study are similar which not only male but also female participants. The first study discussed the appearance of depression based on the degree of burns. while the second study discussed the appearance of depression based on the area of the body that suffered burns.

<table>
<thead>
<tr>
<th>Article</th>
<th>Ref.</th>
<th>Design Study</th>
<th>Sample</th>
<th>Main Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burn-related factors affecting anxiety, depression and self-esteem in burn patients: an exploratory study</td>
<td>Jain M et al</td>
<td>Experimental</td>
<td>100 burns patients</td>
<td>Another interesting result in this study was the statistically significant association between deep burns and anxiety, depression and low self-esteem. Research shows that full thickness burns affect body image. Patients with greater than 20% total body surface area full thickness burns were more concerned about their health and experienced higher levels of anxiety.</td>
</tr>
<tr>
<td>Depression in adults post burn injury: a descriptive study conducted in the burn centre of a tertiary care hospital in karachi</td>
<td>Ali H et al</td>
<td>Descriptive</td>
<td>94 burns patients</td>
<td>Depression was seen in 30 (31.9%) patients of whom 15 (16%) had a mild form, eight (8.5%) had a moderate form and seven (7.4%) had severe symptoms of depression. The other 64 patients (68.1%) had minimal or no depression according to BDI scale results. This study suggest that people with head, neck and face burns causing disfigurement are more likely to develop a psychiatric disorder in later life.</td>
</tr>
<tr>
<td>Impact of facial burns: relationship between depressive symptoms, self-esteem and scar severity</td>
<td>Cornelis J H et al</td>
<td>Experimental</td>
<td>132 patients with facial burns.</td>
<td>There was a significant relation between patient-rated facial scar severity and depressive symptoms assessed at three weeks post-burn. This path indicated that patients with more depressive symptoms rated their facial scars more severely.</td>
</tr>
</tbody>
</table>

Table 1. Summary of studies
**Discussion**

The main focus of the Studies was to assess the presence of common psychiatric problems in victims of burn injuries and to understand the different burn variables that affect the psychological outcome of patients. An unusual finding in that study was a higher prevalence of anxiety in male patients, which is in accordance with many other investigations carried out in other parts of the world. Potential factors that may have contributed to a higher prevalence of anxiety in males could be a fear of disfigurement, worries about the future and return to work, along with the high cost of treatment. The majority of males in the study were working and married, but differences on the basis of marital status and employment were not studied, as they were not in keeping with the aims of the study.

Analysis of the relationship between grade of burn and depression showed that the extent of total body surface area (TBSA) involved did not have any bearing on the severity of depression seen in the subjects. This was in keeping with findings reported in the literature. The same was true for anxiety. This, however, was in contrast with literature showing a positive association between total body surface area involved and severity of anxiety. In keeping with previous research, the association between facial burns and severity of depression remains high, thereby showing that facial disfigurement is a risk factor for post burn depression.

Interestingly, depressive symptoms three weeks post-burn predicted patient-rated scar severity (T1) suggesting that post-burn depressive symptoms influence how people evaluate their facial scars. In addition, depressive symptoms three weeks post-burn were related to pre-burn history of depression and could also be influenced by the traumatic experience of a burn event. Another interesting result in this study was the statistically significant association between deep burns and anxiety, depression and low self-esteem. Research shows that full thickness burns affect body image. Patients with greater than 20% total body surface area full thickness burns were more concerned about their health and experienced higher levels of anxiety. This may have been related to the longer duration of treatment and greater number of procedures they may have undergone, along with the financial costs of treatment. The medication these patients were on, including painkillers, as well as the dressings used also play a role, but these were not assessed in detail in the study.

**Conclusion**

Psychiatric problems are very common in burn survivors. A range of psychological problems such as anxiety, depression, low self-esteem and trauma-related disorders can occur in these patients. Severity of burns, total body surface area involved, site of burns and burn depth all have a role in the development of psychiatric problems. Social and environmental factors may also play a part in the genesis of psychiatric sequelae. There is a dearth of knowledge about the psychological needs of burn survivors. It is imperative that all burn patients be routinely screened for psychiatric morbidity, and all cases be assessed by a psychiatrist at least once during their inpatient stay. Sensitization of the burns ward staff to the psychological needs of the patient is equally important. Future research must focus on long term studies in diverse population groups to elucidate further relationships and factors at the interface of psychiatric problems in burn injuries.

**References**

1. Friedrich MJ. Depression is the leading cause of disability around the world. JAMA. 2017; 317(15): 1517.


