

ORIGINAL ARTICLE

Evaluation of psychiatric illness among burn patients

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ABSTRACT:

Background: The study was conducted for evaluating the psychiatric illness among burn patients. **Material and methods:** This study comprised a total of 230 burn patients. The subjects belonged to the age group of 30-40 years with a mean age of 35.6 years. The burns were examined to evaluate the severity using parkland formula. The subjects were also questioned about their mental health. These subjects were informed about the study procedures and were asked to give an informed consent. Statistical analysis was carried out using SPSS software. **Results:** Out of 230 subjects, psychiatric illness was seen in 100 patients. 16 were males and 84 were females. Among 100 subjects, 16 subjects had anxiety, depression was diagnosed in 51 subjects and 33 subjects were discovered to be thinking about suicide. Most of these subjects who showed these psychiatric illnesses had 3rd degree burns. **Conclusion:** Most of the burn victims were females. Most of the subjects had 3rd degree burns. Various psychiatric illnesses had been diagnosed in these subjects but depression was diagnosed in majority of the burn victims.

Keywords: burns, 3rd degree burns, anxiety, depression, suicidal thoughts

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INTRODUCTION

Severe burns not only cause marked physical consequences, but may also predispose to long-term psychological effects. In the United States and in Finland, approximately 50,000 and 1000 patients, respectively, require hospitalization annually because of burns.^{1,2} Pre-burn psychopathology, demographic characteristics, and objective severity measures of physical trauma³ have been found to be important predictors for development of psychological problems and mental disorders⁴ after burn, such as depression and post-traumatic stress disorder (PTSD).^{5,6}

Previous studies have identified burn patients as being more likely to have a pre-existing mental health issue or psychiatric diagnosis than the general population.⁷ A recent study identified that burn patients had a significantly increased prevalence of pre-burn depression and substance use disorders compared to controls.⁸ This has been identified as an area that needs further research.⁹ Burn survivors with a history

of psychiatric disorders have been shown to have a higher number of post-burn psychiatric problems. However, the effect of psychiatric disorders on important burn outcomes such as complications and mortality is not well understood.⁹ Hence, this study was conducted for the Evaluation of psychiatric illness among burn patients

MATERIAL AND METHODS

This study comprised a total of 230 burn patients. Psychiatric illness was seen in 100 patients. The subjects belonged to the age group of 30-40 years with a mean age of 35.6 years. The burns were examined to evaluate the severity using parkland formula. The subjects were also questioned about their mental health. These subjects were informed about the study procedures and were asked to give an informed consent. Statistical analysis was carried out using SPSS software.

RESULTS

Table 1: Gender-wise distribution of subjects.

Gender	Number of subjects	Percentage
Males	16	16%
Females	84	84%
Total	100	100

In this study, out of 100 subjects, 16 were males and 84 were females.

Table 2: Severity of burns

Severity of burns	Number of subjects	Percentage
First degree burns	06	06%
Second degree burns	23	23%
Third degree burns	71	71%

Most common burns diagnosed were 3rd degree burns among 71 subjects

Table 3: Psychiatric illness among the subjects

Mental health status	Number of subjects	Percentage
Anxiety	16	16%
Depression	51	51%
Suicidal thoughts	33	33%

Among 100 subjects, 16 subjects had anxiety, depression was diagnosed in 51 subjects and 33 subjects were discovered to be thinking about suicide. Most of these subjects who showed these psychiatric illnesses had 3rd degree burns.

DISCUSSION

It is well established that there is an over-representation of psychiatric and psychological disorders in burn patient populations with percentage estimates varying between 20 and 75%.¹⁰ Research has also demonstrated a clear association between pre-burn psychiatric and psychosocial functioning and impairment in post-burn psychological adjustment.¹¹⁻¹⁴

Individuals with a history of psychiatric disorders have been found to be more likely to have difficulties adjusting to the burn injury, with an increased risk of developing problems such as post-traumatic stress symptoms.¹⁵ Psychosocial factors that predate the burn such as coping style and social support have also been shown to affect adjustment.¹⁶⁻¹⁸

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This study comprised a total of 230 burn patients. Psychiatric illness was seen in 100 patients. 16 were males and 84 were females. Among 100 subjects, 16 subjects had anxiety, depression was diagnosed in 51 subjects and 33 subjects were discovered to be thinking about suicide. Most of these subjects who showed these psychiatric illnesses had 3rd degree burns (n=71). Palmu R et al¹⁹ investigated variations in prevalences of mental disorders after burn, and correlation between burn severity and mental disorders among hospitalized burn patients. A cohort of 107 consecutive acute adult burn patients was examined with structured diagnostic interview (SCID-I) at baseline, and 92 patients (86%) at 6 months after injury. Prevalences of mental disorders for the whole 6-month follow-up period, plus 1-month point prevalences in acute care and in a second 6-month interview were assessed, and the two point prevalences were compared. Burn severity was estimate by %TBSA. During the 6-month follow-up 55% (51/92) of burn patients had at least one mental disorder, including 12% (11/92) with post-traumatic stress disorder (PTSD). In a multinomial regression, %TBSA exposure independently and strongly predicted risk for mental disorders, especially for anxiety disorders and delirium. The overall point

prevalence of mental disorders decreased significantly ($p = 0.036$) from acute care (45%) to 6 months (33%). After burn, more than half of the patients suffer from some type of mental disorder, but the prevalence declines over time after the acute phase. The disorders are not limited to depression and PTSD. A strong relationship likely exists between burn severity and some post-burn mental disorders. Hudson A et al²⁰ compared patient and burn characteristics between patients who had a pre-existing psychiatric diagnosis and patients who did not in a Burn Unit at an academic hospital. Psychosocial issues are common in patients recovering from a burn; however, little is known regarding hospital course and discharge outcomes in patients with a pre-existing psychiatric diagnosis presenting with a burn. Baseline medical comorbidities of burn patients have been shown to be a significant risk for in-hospital mortality. A retrospective chart review of 479 consecutive patients admitted to the Burn Unit of an academic hospital in Halifax, Nova Scotia between March 2nd 1995 and June 1st 2013 was performed. Extensive data regarding patient and burn characteristics and outcomes was collected. Patients with and without pre-existing psychiatric diagnoses at the time of hospital admission were compared. Sixty-three (13%) patients had a psychiatric diagnosis, with the most common being depression (52%). Forty-percent ($n = 25/63$) of these patients had multiple pre-existing psychiatric diagnoses. Patients with a psychiatric diagnosis had a greater total-body-surface-area (TBSA)% covered by a third-degree burn ($p = 0.001$), and were more likely to have an inhalation injury ($p < 0.001$). These patients were also significantly more likely to experience 6 of the 10 most prevalent in-hospital complications and had a higher mortality rate ($p = 0.02$). They were less likely to be discharged home ($p = 0.001$), and more likely to go to a home hospital ($p = 0.04$) or rehabilitation facility ($p = 0.03$). Psychiatric diagnosis was associated with significantly more placement issues (e.g. rehab bed unavailability, homeless) upon discharge from the Burn Unit ($p = 0.01$). The risk of death in burn patients with pre-existing psychiatric disorders was

about three times the risk of death in patients with no psychiatric disorders when adjusting for other potential confounders (95% CI, 1.13–9.10; p-value 0.03). Presence of a pre-existing psychiatric disorder in the burn patient was associated with worse outcomes and was a significant predictor of death. Psychiatric diagnoses should be identified early in burn treatment and efforts should be made to ensure a comprehensive approach to inpatient support and patient discharge to reduce unfavorable burn outcomes and placement issues.

CONCLUSION

Most of the burn victims were females. Most of the subjects had 3rd degree burns. Various psychiatric illnesses had been diagnosed in these subjects but depression was diagnosed in majority of the burn victims.

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