

Psychiatric morbidity among burn patients in a tertiary care hospital

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Summary

A burn injury is a traumatic experience, with tremendous social, physical, and psychological consequences. But care and research in burn patients has focused on medical issues rather than on psychological predictors. So this study was done to know the psychiatric consequences of burn patients. The general objective of this study was to find out the prevalence and pattern of psychiatric morbidity in burn patients in Shaheed Suhrawardy Medical College Hospital, Dhaka. It was a descriptive cross sectional study done among thirty two patients admitted in the burn unit of Shaheed Suhrawardy Medical College Hospital. After taking the written informed consent a semi structured questionnaire was applied to the respondents to know the socio-demographic characteristics. Screening for psychiatric illness was done by applying Bangla version of self-reporting questionnaire (SRQ-20), which has been developed by World Health Organization (WHO) to screen for psychiatric illness. Diagnosis of psychiatric illness was confirmed by applying the Clinician Version of the Structured Clinical Interview for DSM-IV for Axis I mental disorders (SCID-CV). Data were analyzed using Statistical Packages of Social Sciences (SPSS) version 17 for windows. Most of the respondents had a diagnosis of psychiatric illness (56.3%). Among the nine positive cases four had a diagnosis of post traumatic stress disorder; two were suffering from major depressive disorder, one from schizophrenia, one from somatoform disorder and one from adjustment disorder. Psychiatric illness is common among the burn patients. So, psychiatric aspect should be given more priority in the management of burn patients.

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Introduction

Burn can be defined as the partial or complete destruction of the skin by thermal energy from flames, steam and hot liquids, contact with hot objects, explosion, or electrical current. Injuries to airways or other organs caused by the same mechanisms, and destruction of skin by chemicals or radiation are also included in burns.¹ Burns are among the leading causes of death and disability in most countries. About 265,000 fire-related deaths are reported each year, based on an earlier study report of global disease burden. According to the World Health Organization, 238,000 individuals died of fire-related burns in 2000, and 95% of these deaths occurred in low- and middle-income countries.^{2,3} The human and economic cost of burn injury is enormous. Burn size and age are cardinal determinants of survival. Mortality is highest in the very young and elderly.⁴ Mortality is greater in female than male with comparable injury.⁵

A burn can be a devastating event in many respects, with long-term physical and psychosocial effects.^{6,7} Major burns are often described as the greatest trauma an individual can sustain. In addition, social consequences such as the loss of family members or friends as well as property and housing can follow. The long, stressful hospitalization required for treatment can lead to social isolation, financial problems and the loss of employment. Even with optimal treatment, scarring is inevitable with deep burn⁸, and the appearance and physical function of burn patients will be affected. Furthermore, to enable the burn survivor to attain an acceptable level of functioning, treatment and rehabilitation often continue for many years after injury.⁹ A burn injury is a traumatic experience, with tremendous social, physical, and psychological consequences.¹⁰ Burn care and research has focused on medical issues rather than on psychological predictors, the psychological aftermath, and quality of life in burn patients. Moreover, the physical isolation needed during treatment for burns and the psychological burden of bodily disfigurement are other areas of importance in burn psychology that may not have attracted enough attention, especially in low- and middle-income countries.¹¹⁻¹³ Patients suffering from burn injury may also lose their main job and need to pay for medical surgical, psychological, and rehabilitation care. Many may also suffer from delirium, depression, anxiety, post-traumatic stress disorder (PTSD), and suffer from the loss of their normal appearance.¹⁴

Primary hospitalization of burn victims may be for a very short period of their long-term treatment, and most patients need several restorative surgeries and several years of medical referrals, as well as ongoing financial and psychological support. Any ignorance can lead to their incomplete recovery and can produce permanent disability or even death. Researchers have realized that the pain suffered by a burn victim not only originates from his/her joints and tissues, but may also have a psychological basis, and needs to be addressed to gain the patient's cooperation in treatment. Stress disorders are reported to occur after burn injuries in 18%–33% of cases, with PTSD being more common. PTSD usually occurs 3-6 months after the burn injury or even a year or more later.¹⁵⁻¹⁷

Psychological problems in burn victims affect quality of life and also cooperation in rehabilitation activities. It is reported that anxiety is the common aftermath of physical and emotional trauma. Apart from anxiety and depression, PTSD is another important issue that some burn victims will encounter.¹⁸

Materials and methods

The general objective of this study was to find out the prevalence and pattern of psychiatric morbidity in burn patients in Shaheed Suhrawardy Medical College Hospital (ShSMC), Dhaka. The specific objectives of this study were to find out the prevalence of psychiatric morbidity in burn patients, to determine which type of psychiatric morbidity is more common in burn patients, to find out the gender differences in prevalence and type of psychiatric morbidity in burn patients and to find out the relationship of psychiatric morbidity and percentages of burn. Dependent variables were psychiatric morbidity among the burn patients and types of psychiatric morbidity in burn patients. Independent variables were gender of the burn patient, percentage of burn/ degree of burn and the inciting cause of burn whether suicidal (self inflicted), accidental or homicidal (attacking).

Thirty two burn injury patients aged between 18 to 55 years admitted in the burn unit of ShSMCH who gave informed consent for the research were selected purposively for the study. Patients in critical condition, involvement of respiratory tract burn and communication problem of the respondent were excluded from the study. The duration of the study was 7 weeks. Data were collected through face-to-face interview using the data collection instruments in burn unit of Shaheed Suhrawardy Medical College Hospital. At first socio-demographic questionnaire was administered and then screening was done with self-reported questionnaire (SRQ-20). Then diagnosis of the patient was done with the Clinician Version of the Structured Clinical Interview for DSM-IV for Axis I mental disorders (SCID-CV). Data were analyzed using SPSS version 17 for windows.

Results

Among the total 32 respondents, 14 (43.8%) were male and 18 (56.3%) were female. Mean (\pm SD) age of the respondent was 30.38 (\pm 10.52) years. Regarding residence about 50% of the respondents resided in urban area. Twenty four respondents did not have past history of psychiatric illness and only 4 had family history of psychiatric illness. The mean (\pm SD) of burnt area was 22.88(\pm 10.24)% of total body surface. Almost all the respondent had accidental burn (93.8%). (Table 1)

Table 1: Sociodemographic and clinical characteristics of the respondents (n=32)

Characteristics	Male	Female	Total
Number	14 (43.8%)	18 (56.3%)	32 (100%)
Mean age (in years)	26.86 (\pm 9.6)	33.11 (\pm 10.92)	30.38 (\pm 10.52)
Area of residence			
- Rural	2 (6.3%)	6 (18.8%)	8 (25%)
- Urban	10 (31.3%)	6 (18.8%)	16 (50%)
- Semi-Urban	2 (6.3%)	6 (18.8%)	8 (25%)
Past history of psychiatric illness			
- present	4 (50%)	4 (50%)	8 (25%)
- absent	10 (41.7%)	14 (58.3%)	24 (75%)
Family history of psychiatric illness			
- present	0 (0%)	4 (12.5%)	4 (12.5%)
- absent	14 (43.75%)	14 (43.75%)	28 (87.5%)
Percentage of total body surface area burnt	20 \pm 10.4%	25.11 \pm 10.14%	22.88 \pm 10.24%
How long ago burn occurred (in months)	2.21 \pm 1.86	8.78 \pm 8.25	5.91 \pm 7.00
Inciting cause of burn			
- Accidental	7 (43.8%)	8 (50%)	15 (93.8%)
- Suicidal (self inflicted)	0 (0%)	0 (0%)	0 (0%)
- Homicidal	0 (0%)	1 (6.3%)	1 (6.3%)

Among the 18 patients diagnosed as a case of psychiatric illness, 8 had a previous history of psychiatric illness. The chi square test showed the difference is not statistically significant. (Table 2)

Table 2: Distribution of the respondents according to past history of psychiatric illness and presence of current psychiatric illness (n=32)

Past history of psychiatric illness	Current psychiatric illness			p value
	Present	Absent	Total	
Present	8 (25%)	0 (0%)	8 (25%)	> 0.05 ns
Absent	10 (31.25%)	14 (43.75%)	24 ((75%)	
Total	18 (56.25%)	14 (43.75%)	32 (100%)	

Among the total 32 participants, 4 (12.5%) had a positive family history of psychiatric illness. Among these 4, 2 respondents had a diagnosis of psychiatric illness. Sixteen respondents were diagnosed as psychiatrically ill having no family history of psychiatric illness. The chi square test was applied and the difference was found statistically non significant. (Table 3)

Table 3: Distribution of respondents according to family history of psychiatric illness and presence of current psychiatric illness

Past history of psychiatric illness	Current psychiatric illness			p value
	Present	Absent	Total	
Present	8 (25%)	0 (0%)	8 (25%)	> 0.05 ns
Absent	10 (31.25%)	14 (43.75%)	24 ((75%)	
Total	18 (56.25%)	14 (43.75%)	32 (100%)	

Among the male respondents 6 were diagnosed as psychiatric patient and among female the positive cases were 12. Chi square test was done. The difference was statistically insignificant. (Table 4)

Table 4: Distribution of the respondents according to sex of the respondents and presence of psychiatric illness (n=32)

Sex of the respondents	Current psychiatric illness			p value
	Present	Absent	Total	
Male	6 (18.8%)	8 (25.0%)	14 (43.8%)	p > 0.05 ns
Female	12 (37.5%)	6 (18.8%)	18 (56.3%)	
Total	18 (56.3%)	14 (43.8%)	32 (100%)	

Among the respondents with 11-20% burn of total body surface area (TBSA), there was 5 with psychiatric illness. Chi Square test shows that the difference is significant at 95% confidence interval. (Table 5)

Table 5: Distribution of the respondents according to percentage of total body surface area burnt and presence of psychiatric illness (n=32)

Percentage of total body surface area burnt	Current psychiatric illness			p value
	Present	Absent	Total	
0-10%	0 (0%)	3 (18.8%)	3 (18.8%)	p < 0.05
11-20%	5 (31.3%)	1 (6.3%)	6 (37.5%)	
21-30%	1 (6.3%)	3 (18.8%)	4 (25%)	
31-40%	3 (18.8%)	0 (0%)	3 (18.8%)	

Most of the respondents had a diagnosis of post traumatic stress disorder (25%). Major depressive disorder was found in 4 patients, schizophrenia was found in 2 patients. (Table 6)

Table 6: Diagnosis of psychiatric illness among the respondents (n=32)

Diagnosis	Male	Female	Total	Percentage
Major depressive disorder	2	2	4	12.5%
Schizophrenia/ psychosis	2	0	2	6.25%
Post Traumatic Stress Disorder	2	6	8	25%
Somatoform disorder	0	2	2	6.25%
Adjustment disorder	0	2	2	6.25%
Total	6	12	18	56.3%

Discussion

This was a cross sectional descriptive study done among 32 patients admitted in the burn unit of Shaheed Suhrawardy Medical College Hospital. The sociodemographic and clinical data show that among 32 respondents male and female were almost equal in number. Mean age (\pm SD) of the respondents was 30.38 (\pm 10.52). Regarding residence, about 50% of the respondents resided in urban area. 24 respondents did not have past history of psychiatric illness and only 4 had family history of psychiatric illness. The mean of burnt area was 22.88 \pm 10.24% of total body surface. Almost all the respondents had accidental burn (93.8%). In a national cohort of 107 adult burn patients in Finland, the majority were middle-aged men with low level of education and poorly employed. Psychiatric treatment history was common. The burn injury happened mostly at home, but every fifth injury happened at work. The mean TBSA burnt was 9%. Over half of the respondents (58.6%) stayed in hospital more than one week.²⁰ Regarding the past history of psychiatric illness only 8 (25%) respondents had a psychiatric illness. This was recall based information so it may not reflect the exact scenario.

Stress disorders, including post-traumatic stress disorder (PTSD), are reported to occur after burn injuries in 18%–33% of cases.¹⁷ About 25% of the burn patients were diagnosed as PTSD in the present study which is quite similar to the previous findings. Increased severity of burn injuries was more likely to trigger PTSD and other mental disorders.⁷ Prevalence rates of depression vary between 2% and 53% in the first month after the burn, and between 13% and 34% at 12 months post-burn.²³

Conclusion

By finding out the prevalence and type of psychiatric morbidities in burn patients we can improve the care and outcome in management of burn patients psychologically. The psychiatric morbidity can be identified earlier and addressed properly by psychiatrist by increasing awareness among the physicians working with the burn patients.

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