

# Psychosocial and medical patterns of acute stress disorder in burn unit in Baghdad, Iraq

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**Objectives** This study aims to estimate the rate of acute stress disorder (ASD) among burn patients. The sample consists of 100 patients admitted to burn unit in Al-Kindy Teaching Hospital in Baghdad city. There is a significant relationship between ASD and burn patients; it is the mean majority of patients with burn developed ASD.

**Methods** A total of 100 patients are attended to burn unit in Al-Kindy Teaching Hospital in Baghdad city. DSM-IV criteria were applied. GHQ and socio demographic data were used for diagnosis. All the patients who do not meet the criteria were excluded from the sample by using ASD symptom questionnaire; proper consent was already taken from all patients.

**Results** A total of 100 patients with ASD were identified in the burn unit, academic psychiatrists made diagnosis to evaluate the positive symptoms (positive symptoms scale). ASD represent 80% of all admissions and was more common among females than males, more than half of the cases were between 15 and 24 years of age with the mean age of 30 years. The majority of cases were married, and the mortality rate of burned patients was 69.4, and the median total body surface area (TBSA) burnt was 60%. 18.6% of patients had previous attempt for self-inflicted burn.

**Conclusion** Both the disease process and treatment of burned patients may affect the mental state of patients producing a variety of symptoms. ASD is the most common psychiatric disorder in burned patients. There is a significant relationship between ASD and burned patients.

**Keywords** burned patients, stress-related disorder, acute stress disorder, dissociation, early identification

## Introduction

Acute stress disorder (ASD) refers to an anxiety and disturbed behaviour that can occur in the time after an extreme trauma. The symptoms usually start during or soon after the trauma, but if the symptoms continue longer than a month, then the condition called pTSD.<sup>1-3</sup> The signs and symptoms related to ASD includes sense of impending doom, nervousness, instability tachycardia, hyperventilation, paraesthesia, diaphoresis, flushing, headache, and there are many causes and methods and behaviours of burn contribute to ASD. The cause of burn is variable and difficult, and the psychiatric morbidity between burned patients and ASD is believed to represent either primary manifestations of the disease caused by skin involvement or psychological reaction to living with a disability and chronic illness.<sup>5-7</sup>

## Materials and Methods

A total of 100 patients were attended to burn unit in Al-Kindy Teaching Hospital in Baghdad city, DSM-IV criteria were applied for the diagnosis of persons with ASD, GHQ and sociodemographic data were used and applied for each person, and the aim was to know the targeting patients; all the patients who do not meet the criteria were excluded from the sample and the study was conducted by using ASD scale.

## Subjects and Sample

A total of 100 patients with ASD were identified in the burn unit, academic psychiatrists made diagnosis to evaluate the positive symptoms (positive symptoms scale) was used.

## Statistical Analysis

All the statistical analysis were performed using *P*-value and Chi-square test ( $\chi^2$ ). The relations among the categorical variables were investigated by  $\chi^2$ . *P*-value more than or equal to 0–0.5 were considered statistically significant. All the data were analysed by  $\chi^2$  at a confidence level of 95%. The data were analysed using  $\chi^2$  test for the differences between the groups. The odds ratio was computed for estimating the strength of association of the risk factors and the occurrence of the disease.

If odds ratio equal to 1 or more means that there is a positive association. If odds ratio less than one means, there is a protection against the occurrence of the disorder.

After studying this table and the statistical data, we found there is a strong correlation between ASD and age groups, 35–54 more than other group.

Table 7 shows that every patient in this group is free from ASD.

Sociodemographic characteristics, gender and age of groups ( $P < 0.05$ ) are shown in Tables 1–8, further no significant relationship was found among sociodemographic characteristics, and the prevalence of ASD was higher in female than in male in ASD of 89.8% (45), 65.8% (35), respectively.

Table 8 shows that by analysing this table, we found the correlation is positive between the ASD and the severity of burn.

## Discussion

In this study, the ratio of female to male patients is 3:2, which is slightly differing from the ratio recorded by other authors. There is a significant relation between female and male genders; in our

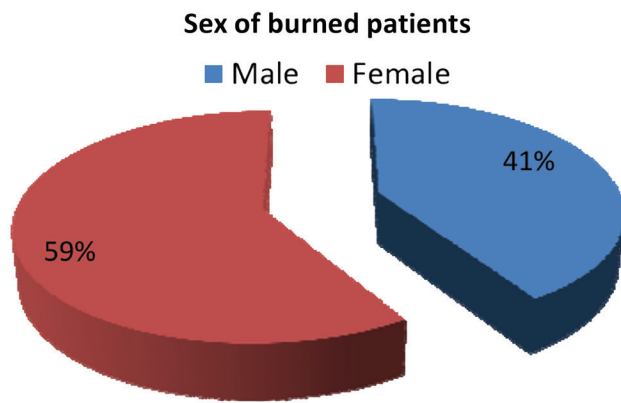


Fig. 1 The ratio of female to male patients.

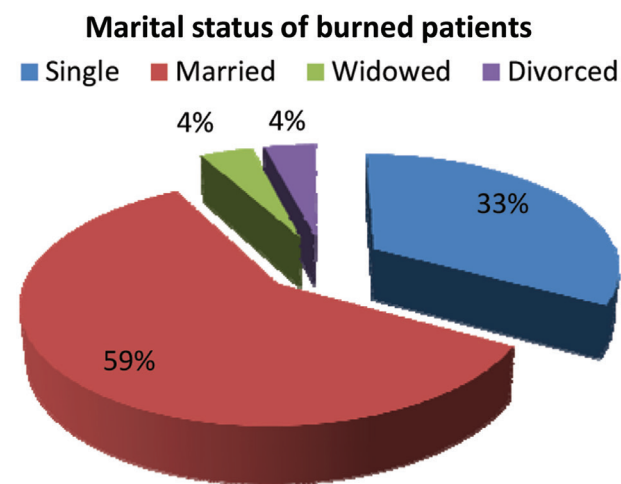


Fig. 2 Significant relation between female sex married divorce, widow.

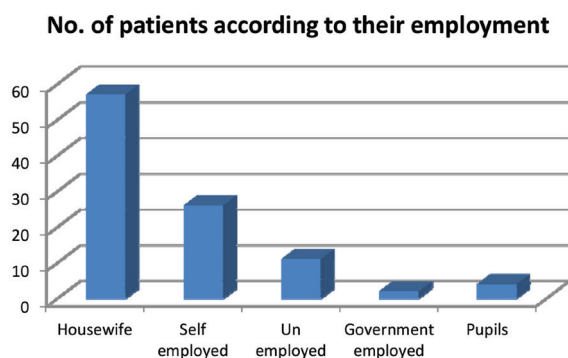


Fig. 3 Significant relation between female sex married divorce, widow.

study, we found that ASD is more common in females, and this difference could be due to the impact of life and bodily constitution, and the male could be more denial than females, many studies found that mood disorders are common in burn unit,<sup>4,8,9,12</sup> and the depression is the commonest that vary from 25 to 50% in our study; the commonest psychiatric morbidity in burn unit is ASD that was predominated in the patients with burn, and a close association between the severity of burn injuries and ASD was found. A significant relation between adult and middle age, female sex and widowed, married and divorced, unemployed. Significantly, a large number of the sample

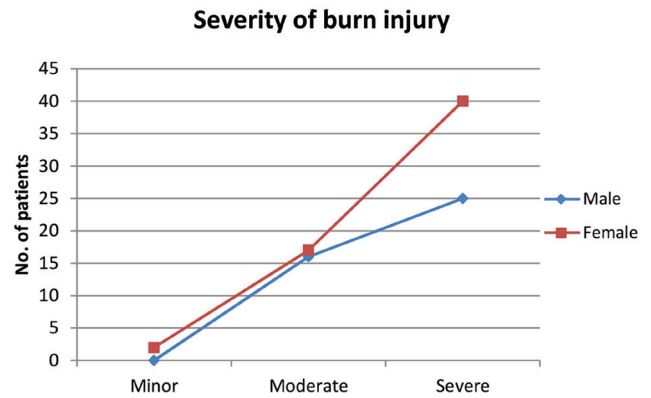


Fig. 4 Close association between severity of burn injury and ASD.

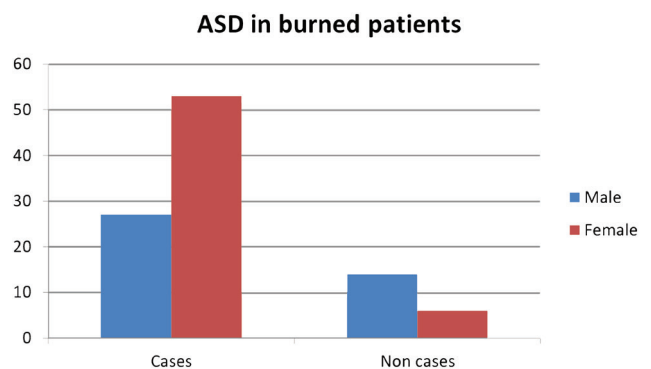


Fig. 5 Close association between severity of burn injury and ASD.

Table 1. Distribution of patients according to the burning agent

Burning agent	No. of patients and %
Kerosene	46
Gas	40
Benzene	8
Hot fluid	3
Electricity	1
Other	2 (one is by hot iron bar and welding oxygen the other case is unknown)
Total	100

Table 2. Distribution of patients according to the cause of burn

The cause	No. of patients and %	
Accidental	82	
Induced	Attempted Definite	10
	Attempted Suspected	8
	Criminal induced	0

Table 3. Distribution of acute stress disorder cases in burn patients

	No. of patients and %		
	Male	Female	Total
Cases	27	53	80
Non cases	14	6	20
Total	41	59	100

Table 4. Distribution of patients according to age groups

Age group	Patients no.	Cases no.	% of the cases	P-value $\chi^2$	Odds ratio
15–24	45	35	77.7	0.0631	0.78
25–34	25	21	84	0.12	1.42
35–44	16	14	87.5	1.01	1.9
45–54	8	8	100	3.063	E*
55 & above	6	2	33.3	7.32	0.102
Total	100	80			

E\* means that every patient burned in this age group is having acute stress disorder.

Table 5. Distribution of patients according to sex difference

Sex	Patients no.	Cases no.	% of the cases	P-value $\chi^2$	Odds ratio
Male	41	27	65.8	8.593	0.218
Female	59	53	89.8		
Total	100	80			

Table 6. Acute stress disorder according to marital status

Marital status	Patients no.	Cases no.	% of the cases	P-value $\chi^2$	Odds ratio
Single	33	24	27.7	1.558	0.523
Married	59	49	83	0.705	1.58
Widowed	4	4	100	2.166	E*
Divorced	4	3	75	0.291	0.74
Total	100	80			

E\* means every patient in this group is having ASD.

presented from rural area. Also there is a low level of education and poverty which are the risk factor for accidents as burn and for ASD. Also, we have found a considerable number of patients in burn unit with attempted suicide either definite or suspected self-immolation among young Muslim women in parts of the Middle East and Central Asia, which is increasingly becoming a cause of death and disability, and very little is known about this phenomenon.<sup>13–16</sup> Male victims generally predominate in western countries and females in the Middle East and the Indian sub-continent.<sup>15–17</sup> In Jordan, burning by kerosene is a common traditional and dramatic way of attempting suicide by females. Sati was described as a custom in India, in which the widow was burnt to ashes on her dead husband. In view of the selected variables of our study, we have found high number of patients with ASD in the age between 15 and 24 years, this may be explained by difficult economic and social situations and burden.<sup>11,12</sup> The females out-numbered males. This may be explained by the

Table 7. Distribution of patients with acute stress disorder according to an employment

Employment	Patients no.	Cases no.	% of the cases	P-value $\chi^2$	Odds ratio
Housewife	57	48	84.2	1.479	1.833
Self employed	26	20	76.9	0.213	0.778
Unemployed	11	10	90.9	1.435	2.714
Government employed	2	2	100	2.041	E*
Pupils	4	0	0	...	...
Total	100	80			

E\* means every patient in this group is having ASD; ... means every patient in this group of pupils is free from ASD.

Table 8. Distribution of patients with acute stress disorder according to the severity of burn

Burn severity	Patients no.	Cases no.	% of the cases	P-value $\chi^2$	Odds ratio
Minor	2	0	0	...	...
Moderate	33	19	57.5	9.596	0.355
Severe	65	61	93.8	21.875	12.842
Total	100	80			

... means every patient in this group of pupils is free from ASD.

tendencies in females to have mental disturbances more than males.<sup>14,15</sup> The high number of patients with ASD are in the group of married, divorced and widowed, which is because of each group has their own stress in their difficult socio-economic state and being responsible for many family demands. ASD was high in unemployed. This may be explained due their financial problems and lack of economic resources and social insecurity and their psychological effect of being without work.<sup>9</sup> By studying the result of severity of burn, we have found that ASD increases with the severity of burn, in moderate and severe burn, while we have less or no ASD in minor burns.

### Recommendations

The patient with burn needs psychological assessment from beginning of disease and at regular intervals thereafter to deal with psychiatric morbidity. Liaison work between plastic surgeon and psychiatrist is required for the management of the burned patients.

### Abbreviations

ASD: acute stress disorder; GHQ: general health questionnaire; DSM-IV diagnostic statistical of mental health disorder-fourth version; TSAB: total surface area burnt; PTSD: post traumatic stress disorder. ■

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