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# Study of Psychiatric Comorbidity in Burn Patients Admitted in Rims, Ranchi

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***Abstract***
***Background:*** *Burn injuries are physically and mentally challenging events for the patients. This study was done to find if some of the burn patients have psychiatric disorder and if they have then what is the pattern of psychiatric problems in burn patient.*
***Material and methods:*** *100 consecutive patients of burns were screened using the General Health Questionnaire -30 (GHQ-30) and those with GHQ-30 score >5 were further evaluated with Structured Clinical Interview for Diagnostic and Statistical Manual for Diseases- Clinical version (SCID – CV).*
***Results:*** *66% of the burn victims were females and 75% belonged to rural background. 36% patients were suffering from some kind of psychiatric co-morbidity.Most common co-morbid psychiatric diagnosis was generalized anxiety disorder (GAD) and psychosis was least common.*
***Conclusion:*** *Psychiatric co-morbidity among burns patients is relatively under-diagnosed. A Comprehensive treatment for the burn patients must include psychiatric evaluation for rapid recovery and rehabilitation.*
***Keywords:*** *Burns, General Health Questionnaire -30 (GHQ-30), Structured Clinical Interview Clinical version (SCID – CV), psychiatric co-morbidity*

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## I. Introduction

A burn is 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.[1] Burn injury by heat (moist or dry) can be a devastating experience for the patient. While many cases of burn injury are accidental, lot many of them can be self inflicted. The existence of psychiatric disorders ranging from acute stress reaction, post traumatic stress disorder, anxiety, depression, delirium and psychosis among burn patients are well documented in literature.[2] The worldwide prevalence of deliberate self-burning in psychiatric patients been reported to be 28% to 75%.[3] Hence it is necessary to study if some of the burn patients suffer from some kind of psychiatric disorder at the time of burn injury and if they do then what is the prevalence of psychiatric problems in burn patient. This study was done with the purpose to find out the pattern of psychiatric disorder present in burn patients admitted in RIMS,Ranchi; a tertiary healthcare centre.

## II. Material And Method

Study period: this was a cross-sectional study done over a period of 1 year (June 2016 to May 2017). Study population: 100 consecutive patients of thermal burn injury who fulfilled our inclusion criteria. Inclusion criteria: patients of major burn injury (>20% TBSA involved) who were conscious, alert, cooperative, well oriented and willing to participate in the study. Exclusion criteria: a) pediatric and elderly patients b) patients of minor burn injury c) patients of non-thermal burn Only after the life threatening problems of the patients in study group were treated and the patient had normal vital features and stable mental status; they were interviewed. The patients were screened with General Health Questionnaire -30(GHQ-30) for identifying common psychiatric conditions. Patients with GHQ score greater than 5, were then interviewed with the SCID-CV for diagnosis of psychiatric disorders. Statistical analysis was done using the SPSS software.

## Result

In our study 100 patients were included. Out of 100, 66 were female and 34 were male. This result shows that female burn injury patients are significantly more in number compared to male patients in our study population.

| Sex | Number |
|---|---|
| Female | 66 |
| Male | 34 |
| Total | 100 |

**Table 1:** Showing Relative Percentage Of Burn Patients Based On Gender

Mean age of patient population was 28 years with SD=7.25years (range-18 to 52 years)

Out of 66 female cases, 46 were from rural area while 20 were from urban area. In male patients 29 were from rural area and 5 were from urban area

| Socio-demography | Female | Male | Total |
|---|---|---|---|
| Urban | 20 | 5 | 25 |
| Rural | 46 | 29 | 75 |
| Total | | | 100 |

**Table 2:** Showing Relative Frequency Of Urban And Rural Population Among Burn Patients

In study population most (79%) of the cases were accidental burn injury while 21% were self inflicted.

| Mode of burn | |
|---|---|
| Self inflicted | 21 |
| Accidental and others | 79 |
| Total | 100 |

**Table 3**: Showing Frequency Of Self Inflicted And Accidental Burn

Total body surface area (TBSA) affected in study population ranged from 20% – 60%. While the patients with <20% TBSA were not included in the study; patients with >60% TBSA were most of the times not stable and had very high mortality. 78% cases in study population had burn injury in range of 20%-40% and 22% patients had burn injury in range of 40%-60%.

| Percentage of burn/TBSA | Number of petients |
|---|---|
| 20-40% | 78 |
| 40-60% | 22 |
| >60% | 0 |
| Total | 100 |

**Table 4**: Showing Total Body Surface Area Involved In Burn Patients

36 cases out of 100 in study population were suffering from some kind of psychiatric comorbity. Most common psychiatric illness was GENERALIZED ANXIETY DISORDER in 17 cases followed by MAJOR DIPRESSIVE DISORDER in 9 cases, ALCOHOL AND OTHER SUBSTANCE USE DISORDER in 7 cases and BIPOLAR DISORDER in 2 cases. All 7 cases of substance abuse were male.

| Psychiatric comorbidity | Number of patients |
|---|---|
| Generalized anxiety disorder | 17 |
| Major depressive disorder | 9 |
| Alcohol and other substance use disorder | 7 |
| Bipolar disorder | 2 |
| Psychosis | 1 |
| Total | 36 |

**Table 5:** Showing Relative Frequency Of Psychiatric Disorders Among Burn Patients

## III. Discussion

A burn trauma exposes the individual to significant physical, psychological and social demands. The General Health Questionnaire (GHQ) is a psychometric screening tool to identify common psychiatric conditions.[7] The Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-CV) is a diagnostic exam used to determine DSM-IV Axis I disorders (major mental disorders).[8] There are at least 700 published studies in which the SCID was the diagnostic instrument used.The findings of the current study show higher number of females as burn victims. This could be due to higher number of homicidal attempts of burns among females due to reasons of dowry, interpersonal issues etc.

A higher number of victims belonged to rural area which could be due to increased number of accidents, lower level of education and awareness regarding use of liquid petroleum gas (LPG).

36% cases suffered from one or other psychiatric morbidity which is comparable to prevalences reported by Patterson et al and Manzoor et al. Among the 36 % of cases suffering from psychiatric co-morbidity, highest percentage was that of generalized anxiety disorder as described by Manzoor et al in his study.

## IV. Conclusion

With the increased survival rates in burn patients with increased access to medical care, a careful assessment of the burn victims is the need of the hour. Evaluation and treatment of co- morbid psychiatric disorders can help decrease the incidence of burns and decrease the health care cost of developing country like ours. Further studies are required in this less explored field of consultation liaison medicine.

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**Conflict Of Interest:** none

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