Educational & Marital Status among Burn Victims

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ABSTRACT

INTRODUCTION: Burns are common, but most neglected trauma, in our part of the world. Many people suffer from burn related disabilities, disfigurement and deformities. In literatures, most burns were related as un-intentional, and a few cases are reported as of self –inflicted burns. Married and young female and the low income people are more common victims of burns. The fire related injuries are less common among person having good educational background. A study to find out the association between educational status, marital status and fire related injuries was carried out.

METHODS: This is a retrospective study from all patients admitted with burns to the Burn Unit, Bir Hospital Kathmandu, Nepal in the ten years period between April 2002 and March 2012. Data on age, sex, marital status, cause, educational status were recorded and analyzed.

RESULTS: Among 1187 admitted patients, 43.5% were male and 56.5% were female. Among them 89% were married, out of which 81.3% were in the age groups of 16- 45 years. Only 2.5% of people were more than 76 years. Most commonly burns are at working place and due to less attention during winter. 78% of burn victims had completed their school level (up to class 10) education.

CONCLUSION: The young and married populations are at higher risk of burn injuries. Occurrence of burn injury among the university graduates is inverse. Unless and until the underlying reasons are identified and problems are resolved, the incidence of burn injury and mortality cannot be reduced.

KEY WORDS:

INTRODUCTION

Burns are among the most devastating of all injuries, with outcomes spanning the spectrum from physical impairments and disabilities to emotional and mental consequences. Each year more than 300,000 people die from fire-related burn injuries. Millions more suffer from burn-related disabilities and disfigurements. One million people die annually worldwide due to suicides and homicides alone. There is no published data of incidence of burns injury in Nepal. But it is considered to be high.

Over 95% of fatal fire-related burns occur in developing or low- and middle-income countries (LMICs) with South-East Asia alone accounting for over half of these fire-related deaths. In literatures, most burns were reported as un-intentional, and a few cases have been

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reported as of self-inflicted burns. Burns caused by assault or maltreatment are also reported in Ghana, India, Iran, Malawi, Nigeria, South Africa and Sri Lanka. Deliberate self-ignition or attempted suicides by burns were also reported in children from Iran.

Every burn, especially in young unmarried or married females is not an accident as they may be homicidal or suicidal. Usually these cases are simulated as accidents by their relatives. In these incidences, the most common reasons given in history are being caught with fire while cooking, explosion due to gas leakage, explosion of kerosene stove or when chimney fell on victim while lighting a lamp.

Scalding from hot liquids is the most common cause of burns for all age groups and by flame in adults. Burns through clothing ignition is caused by loose clothes made solely of cotton, a highly flammable fabric. Liquid petroleum gas, petrol, kerosene and alcohol are the common other causes of burns. Electrical or chemical burns are rare. Chemical burns in the form of pouring acids or other corrosive substances in the face of rivals as a means of retaliation, as assault in domestic disputes are also found in our burn unit.

We did a retrospective observational study to find out the educational and marital status of the burn patients and to correlate the role of educational status for prevention of burn injury.

**METHODS**

This is a retrospective study, based on data that was collected from all new patients admitted with burns to the Burns Unit, Bir Hospital Kathmandu, Nepal in ten years period between April 2002 and March 2012. Bir hospital is one of the largest and the oldest government health facilities in Nepal and the burn unit is the largest burn unit within the country.

Data on age, sex, and marital status, educational status of victims and cause of burns were also recorded. Information on the outcome and mode of burn injury were recorded. All patients, self-reported or suspected suicidal attempts, were assessed by experienced psychologist and counselor.

Demographic data (age, sex, ethnic group) and injury data were collected onto a database. Demographic and burn data from the data base were entered into a SPSS version 18 datasheet and statistical analyses were performed.

**RESULTS**

**Age and gender distribution**

Among 1187 admitted patients 516 (43.5%) were male and 671(56.5%) were female. The mean age for male and female was 30 years and 34 years respectively. In total 81.3% of burn victims were found in the age group of 16-45 years. The injury was found less in the older age group.

The incidence of burn injuries were less among the age group of more than 46 years (Figure no. 1). Only 2.5% of victims were more than 76 years most common causes being less attention during winter and at working place.

![Figure 1. Age distribution of burn injury](image)

**Figure 1. Age distribution of burn injury**

The burn injuries were commoner among unmarried individuals than married individuals. There were 977 (82.3%) cases of the accidental burn injuries. Among 190 suicidal cases 141 were female (74.2%) and 49 were male (25.8%). The burn injuries were common among married women than in male patients.

![Figure 2. Marital Status](image)

**Figure 2. Marital Status**

The most common burn injury was accidental. Flame burn was the most common among accidental, suicidal
and other types of burn injury. Acid burn, lightening, accidental burn in public transports were the other important burn injuries. The figures are presented in Table no. 1.

<table>
<thead>
<tr>
<th>Etiology</th>
<th>Accident</th>
<th>Suicide</th>
<th>Homicide</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scald</td>
<td>194</td>
<td>0</td>
<td>0</td>
<td>194</td>
</tr>
<tr>
<td></td>
<td>16.3</td>
<td>0.0</td>
<td>0.0</td>
<td>16.3</td>
</tr>
<tr>
<td>flame</td>
<td>689</td>
<td>184</td>
<td>16</td>
<td>889</td>
</tr>
<tr>
<td></td>
<td>58.0</td>
<td>15.5</td>
<td>1.3</td>
<td>74.0</td>
</tr>
<tr>
<td>electric</td>
<td>78</td>
<td>4</td>
<td>0</td>
<td>82</td>
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<td></td>
<td>6.6</td>
<td>0.3</td>
<td>0.0</td>
<td>6.9</td>
</tr>
<tr>
<td>other</td>
<td>16</td>
<td>2</td>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>1.3</td>
<td>0.2</td>
<td>0.3</td>
<td>1.9</td>
</tr>
<tr>
<td>Total</td>
<td>977</td>
<td>190</td>
<td>20</td>
<td>1187</td>
</tr>
<tr>
<td></td>
<td>82.3</td>
<td>16.0</td>
<td>1.6</td>
<td>100.0</td>
</tr>
</tbody>
</table>

78% of burn victims had completed their high school level (class-10) education. The burn injury was found less in number among the individuals who had one some university degree. The educational status of the burnt patients is given in the figure no. 3.

![Figure 3. Educational Status of Suicidal cases](image)

**DISCUSSION**

Incidence, etiology and nature of burn vary from one community to another and depend mainly upon age, sex, customs, economic status, environmental and social circumstances\(^\text{16,17}\). Both intentional (suicidal, homicidal) and non-intentional (accidental) burns are more common in female. Accidental burns in females are due to more involvement in the kitchen. In these incidences, the most common reasons given in history are clothes catching fire while cooking or sitting nearby fire place during winter, explosion due to gas leakage, explosion of kerosene stove or when lamp (Tuki/ Diyo) fell on victim while lighting lamp. During petroleum product crisis, people store these products at home and check the amount by lighting or a gas lighter which make accident prone. The different studies done in India have also shown that females are victimized more during cooking in the kitchen\(^\text{18,19}\).

More (89%) married individuals are victimized than unmarried due to various different reasons as mentioned. Similar result was found in a study done in Varanashi, India where 83.2% of cases were married.\(^\text{20}\)

Self ignition by pouring kerosene/petrol in the body was found the most common practice of suicidal & homicidal attempt. The dispute between the couples or with other family members was the most common cause for the suicidal burn. Excessive intake of alcohol by a family member leading to monitory crisis and psychiatric problem was another common cause of suicidal burns. Burn is common among married females as they are mostly engaged in the kitchens in Nepalese society.

In our study, among all burns 16.0 % of burn was suicidal and 1.2% was homicidal. One study of India\(^\text{20}\) has shown the homicidal rate of 1.7% among total burn cases which is slightly higher than our study. This should be considered as an important factor for the burn injury for prevention.

Only 4% of burns victims had university degree. The relation between educational status and burn injury could not be found in other study even though this shows that the educational status has the greater role in controlling the burn injury.

**CONCLUSION**

This study has identified that the young and married populations are at higher risk of burn injuries. Apart from accidental causes of burn injuries the suicidal and homicidal causes of burn injuries are also the major concern of this society. The low incidence rate of burn injury among the university degree holding individuals shows that education helps to decrease the risk of burn injury.

Burn mortality is one of the major problems of Nepal. Unless the underlying reasons are identified and problems are resolved the incidence of burn injury and mortality cannot be reduced. Detail study on intentional and unintentional burns is found necessary to find out the causes.
REFERENCES:


20. Batra AK, Burn mortality: recent trends and sociocultural determinants in rural India, Burns 2003; 29; 270–75.