

Medicolegal Aspect of Burn Victims

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ABSTRACT

Aim: To determine the prevalence of age and sex variation, manner of injuries among the burned patients.

Design: Observational descriptive study

Duration of study: One year

Methods: The study was conducted in Mohtarma Benazir Bhutto Shaheed Medical College, Mirpur, AJ&K and data of all burn victims, were collected from the Sandeman provincial hospital Quetta and data collected during the period from January 2000 to December 2000.

Results: Out of the 114 burnt patients majority of the patients were female 70(61.4%) and males 44(38.6%). In females the most common manner in burned patients was accidental 50(43.9%) and the second commonest manner were Homicidal and suicidal 10(8.8%) each. In males the commonest manner was accidental 40(35.1%), and the 2nd commonest was homicidal 4(3.5%) and no any suicidal burn was reported among males in the age of 21–30 years are more susceptible to burns and the Liquid burns are most common cause of burns .In males and females the most common manner is accidental.

Keywords: Burn victims, MLC aspect

INTRODUCTION

Though fire has become the most useful agent, yet it has proved to be one of the most destructive enemies of man. Fire destroys property, wipes out thousands of lives every year and thereby cause wastage of human resources. Burn injuries are caused due to contact with dry heat^{1,2}. Burns are injuries to skin caused by heat which includes (flame, hot liquids electricity, radiation, or chemicals). Most commonly, burns result from heat exposure including fire, steam, tar, or hot liquids³. Burns caused by chemicals are similar to thermal burns, whereas burns caused by radiation, sunlight and electricity tend to differ greatly, Thermal and chemical burns usually occur because heat or chemicals contact part of the body's surface, most often the skin⁴. Severe surface burns may penetrate past the skin to deeper body structures, such as fat, muscle, or bone, when skin tissue is burned, fluid leaks from the blood vessels causing swelling and pain. In addition, damaged skin and other body surfaces are easily infected because they can no longer act as a barrier

against invading organisms⁵. Burn injuries occur universally and have adversely affected mankind since antiquity till the present day. In all societies burns constitute a serious medical and psychological problem. It has also severe economic and social consequences not only to the individuals, but also to their family and society in general⁶.

MATERIALS & METHODS

This is observational descriptive study .The study was conducted in Mohtarma Benazir Bhutto Shaheed Medical College, Mirpur, AJ&K and data of all burn victims, were collected from the Sandeman provincial hospital Quetta and data collected from the period January 2000 to December 2000. Data were analyzed on using SPSS ver.20.All patients of more than ten years of age, irrespective of sex with burns injuries were included in the study. Patients reporting to casualty department or admitted in burn units were evaluated carefully regarding cause, manner, place and circumstances of injury, extent of involvement of area burnt. Patients less than ten years of age were excluded from the study because medico-legal aspect is least likely in these patients. Details of the cases were collected from the police papers, the inquest reports and from the hospital records. The main objective is to gather epidemiological information, to find the causes of death in different Burn injury cases, the sex ratio and the various factors of such injury. All findings were recorded on separate proforma containing all demographic details

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of patient and their family, and evaluated statistically at the end of study. There were a gap between the trends and result which were on medicolegal record, so this study was planned to determine the prevalence of age and sex variation, manner of injuries among the burn patients.

RESULTS

A total of 114 patients were studied during the study period. Among them 114 burnt patients majority of the patients were female 70(61.4%) and males 44 (38.6%). In (Table 1) females the most common manner in burned patients was accidental 50(43.9%) and the second commonest manner were Homicidal and suicidal 10(8.8%) each. In males the commonest manner was accidental 40(35.1%), and the 2nd commonest was homicidal 4(3.5%) and no any suicidal burn was reported among males. Table 2 shown that the most common cause of burn victims was Hot liquids 47(41.2%) and the 2nd commonest cause was due to Flame 38(33.3%) and 3rd commonest cause was due to working in Coal mines 13(11.4%). Least cause of burn was chemicals 7(6.1%) and very least cause was due to electricity 9(7.9%). It is concluded that hot liquids cases are more than others with 41.2% of the total in which the ratio of female is high. Table 3 shown out of 114 patients, the most common age group in burned patients was 21-30yrs 45(39.5%) and 2nd common age group was 11-20yrs, 21(18.4%), 3rd common age group was 41-50yrs, 20(17.5%). The least common age group was 31-40yrs 15(13.2%), 2nd least common age group was 51-60 years 7(6.1%) and 3rd least common age group was 6(5.3%). It is found that the burn cases are most common in youngsters' i.e., 21-30 year; reason might be the emotional states and irresponsible behavior of this age group. Whereas there are very rare cases of burn in age group of 51-60 and more than 60 years, reason can be maturity level of the people of respective age group.

Table 1 Manner of injuries in gender variation

| Gender | Manner of injuries | | |
|--------|--------------------|-----------|----------|
| | Accidental | Homicidal | Suicidal |
| Male | 40 | 4 | 0 |
| Female | 50 | 10 | 10 |

Table-2 Etiology of Burn Victims

| Etiology | Male | Female | Total |
|-------------|------|--------|-------|
| Flame | 15 | 23 | 38 |
| Hot Liquids | 10 | 37 | 47 |
| Chemicals | 4 | 3 | 7 |
| Electricity | 5 | 4 | 9 |
| Coal Mines | 10 | 3 | 13 |

Table-3 Age group variations of burn victims in gender

| Age variation | Male | Female | Total |
|---------------|------|--------|-------|
| 11-20yrs | 7 | 14 | 21 |
| 21-30 yrs | 15 | 30 | 45 |
| 31-40 yrs | 5 | 10 | 15 |
| 41-50yrs | 10 | 10 | 20 |
| 51-60yrs | 4 | 3 | 7 |
| >60yrs | 3 | 3 | 6 |

DISCUSSION

Incidence of burns whether accidental, homicidal or suicidal are not uncommon in Indo-Pak society. 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^{7,8}. In the present study, out of 114 burnt victims, females were 70(61.4%) and males 44(38.6%). The reason for the predominance of the female may be for most of the housewives, kitchen and kitchen related activities place them at high risk of fatal burn accidents. Accidental burns are common in females as compared to males in Pakistan because working in kitchen is the prime responsibility of females. So they are more prone to burn accidents at home⁹. In our study majority of females 50(43.9%) and males 40(35.1%) were accidentally burned. On the other hand, male predominance was observed in studies carried out at China^{10,11}, Singapore¹² and Taiwan^{13,14}, Turkey^{15,16}, Spain¹⁷, South Korea¹⁸, Japan¹⁹. This may be explained by the fact that because of rapid industrialization in these countries, male become more susceptible to fatal burns at work place as compared to females²⁰.

Homicide by burning amongst women is a major concern in Indo-Pak as it has been common throughout all social strata and geographic areas^{21,22}. In our study, females 10(8.8%) patients have same ratio in homicidal as well as in suicidal manner as compared to males in which homicidal males were 4(3.5%) and there was no any case of suicidal burning was reported. In our study the most common age group in burned patients was 21-30yrs 45(39.5%) and 2nd common age group was 11-20yrs, 21(18.4%), 3rd common age group was 41-50yrs, 20(17.5%). A study supports our results in Pakistan which showed that majority of the patients were belonged to the 2nd and 3rd decade of life⁹. Another study in India showed the same results was observed in 11-40yrs of age group^{10,20}. It is very clear that adolescent and young adults (11-40 yrs) are commonly involved in fatal burn accidents in India as this is the most active group and burns may occur while working, where awareness and adequate safety measures are lacking. As far as burns are concerned, effective burns prevention programme needs to be

launched and implemented taking into consideration high risk group and population. Also there is an immense need for nationwide drive to create awareness regarding safety.

CONCLUSION

1. Females & Males in the age of 21–30 years are more susceptible to burns.
2. Liquid burns are most common cause of burns.
3. In males and females the most common manner is accidental.

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