



Profile of Patients With Acute Burn Injuries at A Tertiary Care Centre

KEYWORDS

Profile, acute burn injuries

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ABSTRACT *Objective: To study the profile of Patients with acute burn injuries. Material & Methods: This is a prospective study of 51 patients who presented to the emergency with acute burn injuries. Results: 69% of the patients were male, age range was from 6 months to 70 years, with a mean age of 22.7 years. Maximum patients belonged to the lower socio-economic strata (58.5%). 75% of the patients incurred burns at home. Conclusion: The mortality, morbidity and disability related to burn injuries can be prevented to a great extent by educating people about safety measures, implementing good health and safety regulations, proper appliance designing.*

INTRODUCTION

Sushruta, the great Indian surgeon, was the first in describing the clinical features of a burn victim almost 2500 years ago (1). Globally in 2004, the incidence of burns severe enough to require medical attention was nearly 11 million people and fourth in all injuries, behind road traffic accidents, falls, and interpersonal violence - this is higher than the combined incidence of tuberculosis and HIV infections, and just slightly less than the incidence of all malignant neoplasms. Burns under 20% TBSA occur to 153 per 100,000 population of children aged 0-15 years, making them the fifth most common cause of non-fatal childhood injuries after intracranial injury, open wounds, poisoning, and forearm fractures (2)

It is therefore important that data detailing epidemiological characteristics is collected and collated, particularly for this region, covering Uttarakhand - for which currently no data is available in the public domain.

AIMS AND OBJECTIVES

To study the profile of patients presenting with acute burn injuries.

MATERIALS AND METHODS

This study was conducted in the Department of Surgery (Plastic Surgery) at Himalayan Institute of Medical Sciences, Swami Ram Nagar, Dehradun over a period of 12 months after taking a written and informed consent from subjects or subjects attendant.

Study Design:

Sample size - In this study, 51 patients with burn injuries were included.

Type of study - It was a prospective observational study.

Selection of Study Subjects:

All patients who reported to Himalayan Institute Hospital in the Department of Surgery, Plastic Surgery and Emergency, within 1 week of sustaining burn injury.

Results

Figure 1 shows in an observation of 51 subjects taken in this study, majority of the subjects were males (35, n = 51), while females comprised a minor group (16, n = 51). The male to female ratio was 2.1:1.

Figure 2 shows the age distribution of subjects who sustained burns it shows a variable pattern with a mean age of 22.7 years and a range of 6 months to 70 years. Burn injuries were least observed (2, n=51) in the age group of less than one year of age, followed by (3, n=51) cases in the age group of more than 50 years of age. Thus least prevalence of burn injuries was seen in extremes of ages. In between i.e. 1-18 years, 19-30 years and 31-50 years showed comparably similar incidences vis-à-vis (15, n=51) in the age group of 1-18 years (19, n=51) in the age group of 19-30 years of age and (12, n=51) in the age group of 31-50 years of age.

Figure 3 depicts that burns predominantly affected the lower socio-economic strata 30 subjects belonged to the upper-lower (Class IV) socio-economic group and 8 subjects belonged to the lower (Class V) socio-economic group. In contrast to this, 13 subjects were from the middle socio-economic (Class III) group while no patients were seen in the upper socio-economic strata.

Figure 4 shows that home inflicted burn injuries were most prevalent (38 out of 51) while workplace related incidents were 5. There were 8 incidents of burn injuries sustained at places away from home or work such as roadside, marketplace, shops, social gatherings and events.

Figures

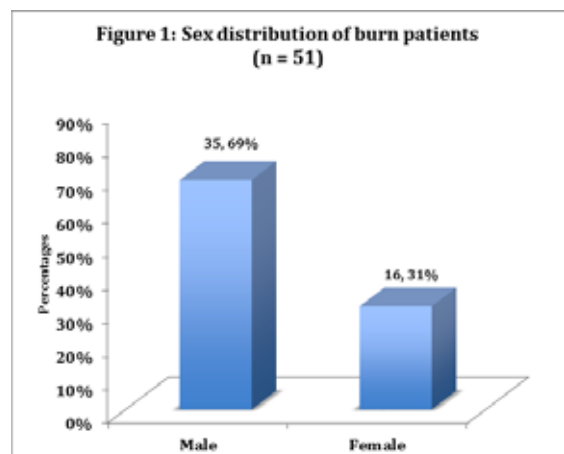


Figure 2: Age distribution of burn patients (n = 51)

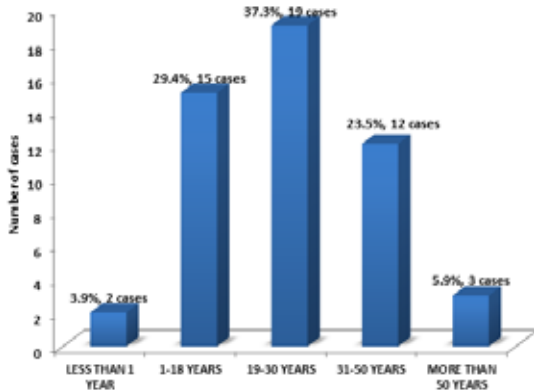


Figure 3: Socio-economic status of burn patients (Kuppuswamy scale) (n=51)

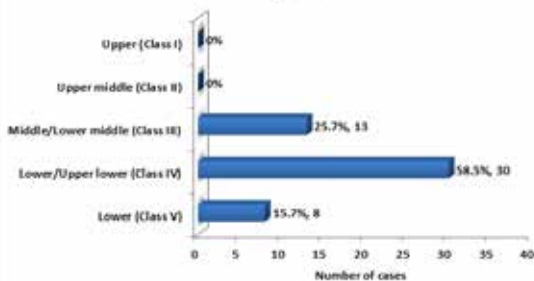
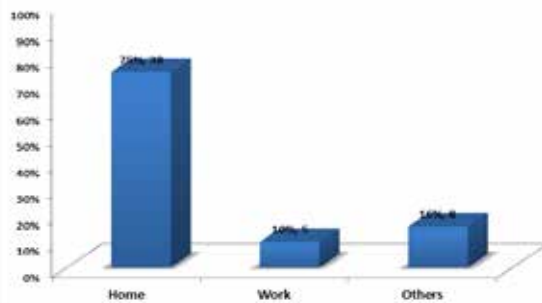


Figure 4: Place of sustaining burn injury (n = 51)



DISCUSSION

Burns claim more than 250,000 lives each year (3). An estimated 11 million patients survive their burns and are left with the economic and psychological sequelae of disability, disfigurement and social stigma (4).

Some studies have reported a high incidence in young patients and a female preponderance, however other studies have reported a male preponderance. This study showed a clear male preponderance with a male-to-female ratio of 2.1:1. Ashok K. Gupta, et al, reported similar findings in a study where 54% cases of burns were males. (5)

It was observed that in males the most common cause of injury was flames (12 cases, 34.3%), followed by electrical burns (10 cases, 28.5%) and scalds (9 cases, 25.7%). 2 male patients sustained contact burns due to a hot utensil and burning coal (5.7%) and 2 male patients were

involved in flash burns following an explosion (5.7%). Factors attributed to burns in males were occupational injuries. In females, flame burns and scalds were the most causes of injury with an equal distribution (37.5%) followed by electrical injuries (12.5%), with one case of chemical burn to a young female. Majority of the female burn victims (14 out of 16 cases) suffered injuries in the kitchen, which was also noted in a study by Ma-diha Hashmi, et al (6). This may be due to the fact that most injuries happen around cooking stoves, probably caused by faulty kerosene pressure stoves, unsafe practices while using natural gas or loose clothes catching fire. Other factors that make Indian females more prone to burn injury are their low socio-economic status, gender inequality and social evils like dowry. In this study, the mean age was found to be 22.7 years age with a distribution graph which showed that the pediatric age group of 1-18yrs and adult age group of 19-30yrs had the highest number of burn injuries (33%) followed by adults of the age group 31-50yrs (23.52%). This is in accordance with previous studies, which show that burns affect the most productive age group of our nation.

Another study by SivaRam from the Indian sub-continent reported that majority of burns occur in people under the age of 35 years. Females belonging to this age group are young mothers whose loss destroys the whole family unit, while death of young men deprives the family of the sole breadwinners. Sad fact is that these young people are losing their lives due to either carelessness or lack of awareness, both of which are avoidable (7).

Majority of the cases (58.82%) were from class IV (Upper Lower) socio-economic group followed by 25.49% from class III (Lower Middle) socio-economic group. When class IV and V are pooled as lower socio-economic status and class II and III as middle socio-economic status, a significant association is found between socio-economic status and burn injury.

A Study by Haralkar SJ, et al also supported this finding that burn cases are more prevalent in lower socio-economic group owing to poor standards of living making persons more prone for burn injury. (8)

CONCLUSION

This study evaluated the socio-epidemiological characteristics in patients with burn injuries. Most of the injuries occurred at home revealing that women and children are the most vulnerable group in this setting. Utmost attention should be given to this aspect and educational programs in schools and colleges should be implemented at the earliest to decrease the morbidity and mortality due to this public health crisis. One of the most common sources of flame burn injury in this setting was a kerosene pressure/LPG stove. Health education regarding safety while handling these equipments should be introduced into schools and colleges especially to girl students. The mortality, morbidity and disability related to burn injuries can be prevented to a great extent by educating people about safety measures, implementing good health and safety regulations, proper appliance designing.

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