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Original Research Article

Demographic and socio-cultural aspects of burns patients admitted in a tertiary care centre

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ABSTRACT

Background: Burn injury is a serious pathology, potentially leading to severe morbidity and significant mortality, but it also has a considerable health-economic impact. Burn injuries rank among the most severe types of injuries suffered by the human body with an attendant high mortality and morbidity rate. The objective of this study was to identify the demographic and socio-cultural aspects of burn patients attending a tertiary care centre.
Methods: A cross sectional study was carried out in the burns unit of a tertiary care centre. All burns cases admitted to the burns unit for the period of one year were included.
Results: Out of the 150 burns patient's majority were females belonging to the age group 21 to 30 years. 80% of the burn injuries occurred at home. Cooking was the main factor for burns in domestic set up. Flames represented the common agent of burn injuries.
Conclusions: The current study gives important information about sociocultural factors involved in burn injuries which in turn will help in identifying the high-risk population for preventing future burn injuries.

Keywords: Burns, Flames, Morbidity

INTRODUCTION

Burn injury is a serious pathology, potentially leading to severe morbidity and significant mortality, but it also has a considerable health-economic impact.[1] Moreover, burns are also among the most expensive traumatic injuries, because of long hospitalization and rehabilitation, and costly wound and scar treatment.[2,3] Burn injuries rank among the most severe types of injuries suffered by the human body with an attendant high mortality and morbidity rate.[4]

Burns constitute a major public health problem globally, especially in low and middle-income countries where over 95% of all burn deaths occur. Fire-related burns alone account for over 300,000 deaths per year. Developing countries have a high incidence of burn injuries, creating a formidable public health problem. The exact number of cases is difficult to determine: however, in a country like India, with a population of over 1 billion, we would estimate 700,000 to 800,000 burn admissions annually. Burn deaths are classified among the 15-leading cause of deaths in India.[5] Microbial infection after burns, where a large portion of the skin is damaged, is a very serious complication that often results in the death of the patients. About 45% of the mortality in burns patients is caused by septicemia.[6,7]

Burns represent an extremely stressful experience for both the burn victims as well as their families. An extensive burn profoundly affects the patient's physique, psyche, financial situation and family. Patients who

suffer from extensive burn injuries frequently die, while others suffer from painful physical recovery. In addition to their dramatic physical effects, burn injuries frequently cause deleterious psychological complications. In different communities, the aetiological factor of burn injuries varies considerably, hence a careful analysis of the epidemiological factors in every community is needed before the planning and implementation of a sound prevention program. This study was conducted to identify the demographic and socio-cultural aspects of burn patients.

The objective of this study was to identify the demographic and socio-cultural aspects of burn patients attending a tertiary care centre.

METHODS

Cross sectional study was designed in Department of General Surgery Sree Mookambika Institute of Medical Science, Kulasekharam, Tamil Nadu, India. Approximate total duration of the study was 1 year from October 2015 to October 2016.

Detailed description of the groups: All burns cases admitted to the burns unit of Sree Mookambika Institute of Medical Science, Kulasekharam, Tamil Nadu, India. Total sample size of the study was 150. Scientific basis of sample size used in the study. All burns cases admitted to the burns unit for the period of one year so no sample size.

Inclusion criteria/exclusion criteria was Bburns cases admitted during the study period. Parameters to be studied: various epidemiological information such as age, sex, type of burn, hospital stay, total body surface area involved, degree and depth of burns Methods(s)/Technique(s)/Reagent(s)/Kit(s) etc. used to measure the qualitative parameters along with their manufacturing source details: Pretested questionnaire was applied.

After getting approval from Institutional Human Ethical Committee written informed consent was obtained from the participants/ relatives before enrolling them into study. Pretested questionnaire was applied by the chief investigator.[8] While in case of children or patients who were not well enough as a reset of severe burns, the data was obtained from relatives who attended the unit. For defining the extent of burns we used Wallace's rule of nine and for the paediatrics age group the Lynch and Bolcker method was applied in which they have differentiated between infants and children. Prasad BG socioeconomic scale was used for socioeconomic status classification.[9]

RESULTS

The mean age of the burn patients ranged from 1 to 60 years (mean 20.67±14.7 years); majority of the patients (40%) were in the age group of 21 to 30 years (Table 1). Out of the total 150 patients participated in the study, majority are females (75%).

Table 1: Age group of patients.

Age predisposition	Age (years)	Total percentage (%)
0-1	5	3.3%
1-10	30	20%
11-20	10	6.6%
21-30	60	40%
31-40	15	10%
41-50	11	7.3%
>50	19	12.7%

According to Prasad BG socio economic classification majority of the patients belonged to upper lower socioeconomic status (60%), while 21.8% were middle class and only 18.62% were of high socioeconomic status. Out of 150 burn patients 80% were married. Arrival time to hospital after the incidence was variable among all patients, none of the patients arrived within 6hour of the incidence. The majority (75%) reached the hospital between 6-24 hours. Majority of the burn injuries (80%) occurred at home. Cooking was the main factor for burns in domestic set up. Flames represented the common agent of burn injuries (78%). Kerosene stoves (65%) were the most common source of flame injuries. LPG burns (25%) rank the second common source of flame injuries. Majority of the burns case were accidental (75%) while the rest of them were homicidal (15%) and suicidal (10%). Suicidal type of burn case was more among males. out of the 150-patient's majority of them belonged to third-degree burns (75%). Third degree burns were more among females (60%). Abdomen and thorax (60%) were the most common areas involved in all types of burns. The percentage of total body surface area ranged from 20% to 100% with mean of 70.57 (±25.18). Mean of TBSA for male and female was 50.13% and 69.03%, respectively. Considering 40% TBSA as a cutoff point to differentiate severity of burns, only 8.70% of cases were admitted with TBSA <40%. Average TBSA of burn in female was higher than male in all age group except in pediatric age.

DISCUSSION

In the developing countries burn injuries are a major public health problem due to their high morbidity, disability and mortality rates. In all societies which include those in the developed or in the developing countries, burns not only pose medical and psychological problems but also produces severe economic and social consequences on the patient family and also society. Age and sex are the important epidemiological factors for burn injuries.

Present study revealed that majority of the cases were aged between 21 to 30 years. The age distribution found by the current study is similar to studies conducted by Subrahmanyam et al and Ytterstad et al.[10,11] Our study revealed low percentage of burn cases in the old age group but Glasheen et al found out higher percentage of burn cases in the old age group.[12] This shows that certain age groups are vulnerable to burns reflecting age related behavioral factors. In the current study, more burns patient cases were reported among females which was a similar finding compared to Jaiswal et al and Lal et al.[13,14] Sociocultural factors play an important role on this regard in developing countries like India. In the current study most cases were accidental in nature which was similar to various studies conducted in India.[13,14] The Most common source of flame injury in our study was kerosene stove which was similar to studies conducted by Jaiswak et al and Lal et al.[13,14] But in other developed countries flammable liquids and gas stoves caused most of the flame burns.[15] Present study revealed that in all age groups female exceeded male for degree of burn and total body surface area which was similar to Lal et al.[14]

CONCLUSION

The current study gives important information about sociocultural factors involved in burn injuries which in turn will help in identifying the high-risk population for preventing future burn injuries. The Current study shows that most of the burns were domestic accidents occurring commonly among females involved in house hold cooking and related activities. Proper health education is a must to this high-risk group to prevent further burns accidents in the future and ensure safety.

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Ethical approval: The study was approved by the institutional ethics committee

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