

# Assessment of 121 Burn Patients Admitted to the Surgery Department: A Retrospective Study

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## ABSTRACT

**Background:** Burns can be very destructive, and severely endanger the health and lives of humans. Hence; the present retrospective study was undertaken for assessing the 121 burn patients admitted to the surgery department.

**Materials and Methods:** Sample size for the present study included 121 consecutive burn patients. From the department, detailed record of all the burn patients was obtained. Cause of burn was separately recorded. Thorough examination of the data records was done for assessing the complete clinical and treatment profile. Following variables were recorded: Age, Gender, Socio-economic status, Location of burn, surgical treatment protocol followed, and Hospital stay. All the results were analyzed by SPSS software.

**Results:** Scald and flame were the most common cause of burn, found to be responsible for 48.76 percent and 28.92 percent of the cases respectively. Mean hospital stay was 48.6 days. 62 patients belonged to the lower class, while 39 patients belonged to middle class. Surgical treatment was carried out in 46 patients, while conservative treatment without surgical

intervention was done in 75 patients. Total body surface area of more than 60 percent was involved in 23 cases.

**Conclusion:** Prevalence of burn is significantly high among children, thereby associate with prolonged hospital stays.

**Keywords:** Burn, Surgery.


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## INTRODUCTION

Burns can be very destructive, and severely endanger the health and lives of humans. It maybe cause disability and even psychological trauma in individuals. Such an event can also lead to economic burden on victim's families and society. Burn is one of the most severe injuries. The treatment is rather difficult and is frequently prolonged. An early diagnosis of sepsis is of the utmost importance for the correct management of burn patients because it has a marked impact on treatment outcomes and survival.<sup>1-3</sup> Sepsis can lead to multiple organ dysfunction syndrome (MODS), which is the cause of most deaths in burn units. Therefore, a prompt sepsis diagnosis and the immediate initiation of antimicrobial therapy are needed to reduce morbidity and mortality. However, the unnecessary administration of antimicrobials is often associated with adverse effects, increased costs and the emergence and spread of antimicrobial resistance.<sup>4-6</sup> Hence; the present retrospective study was undertaken for assessing the 121 burn patients admitted to the surgery department.

## MATERIALS AND METHODS

The present study was planned in the Department of General Surgery, Government Medical College and Super Facility Hospital, Azamgarh, Uttar Pradesh (India) and it included assessment of 121 burn patients admitted to the surgery department. Before the starting of the study, ethical clearance was obtained from the ethical committee of the institution. Sample size for the present study included 121 consecutive burn patients. From the department, detailed record of all the burn patients was obtained. Cause of burn was separately recorded. Thorough examination of the data records was done for assessing the complete clinical and treatment profile. Following variables were recorded:

- Age,
- Gender,
- Socio-economic status,
- Location of burn,
- Treatment protocol followed,
- Hospital stay

Classification of the socio-economic status of all the patients was done into following type based on the modified Kuppaswamy's Socioeconomic Status Scale<sup>6</sup> described previously in literature: Upper class, middle class and lower class. All the results were analyzed by SPSS software.

**RESULTS**

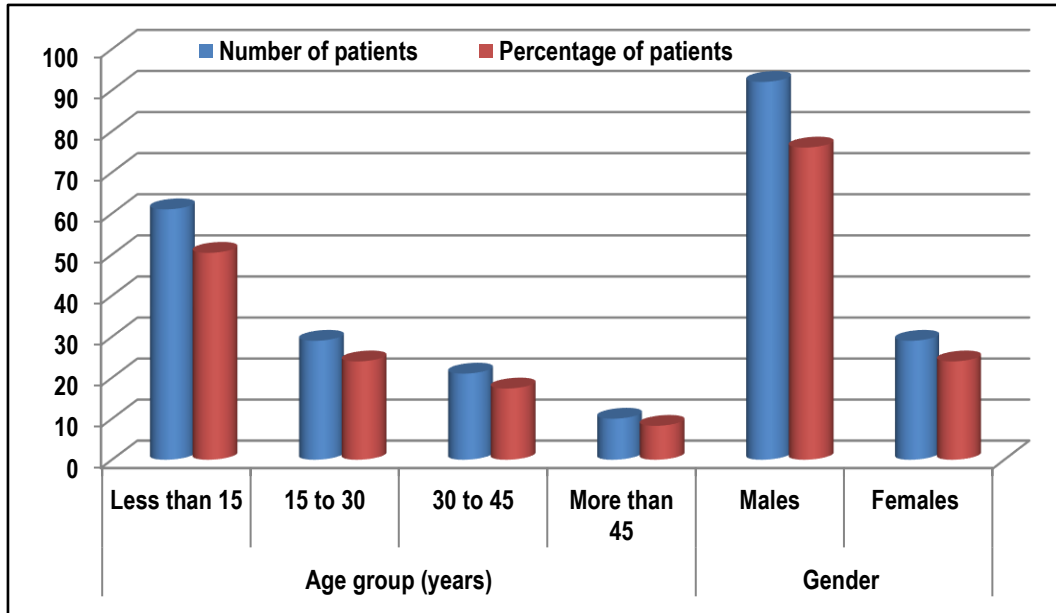
A total of 121 burn patients were analyzed in the present study. Mean age of the burn patients of the present study was 9.46 years. 50.41 percent of the patients less than 15 years of age. 23.97 percent of the patients belong to the age group of 15 to 30

years. 76.03 percent of the patients were males while the remaining were females. Scald and flame were the most common cause of burn, found to be responsible for 48.76 percent and 28.92 percent of the cases respectively.

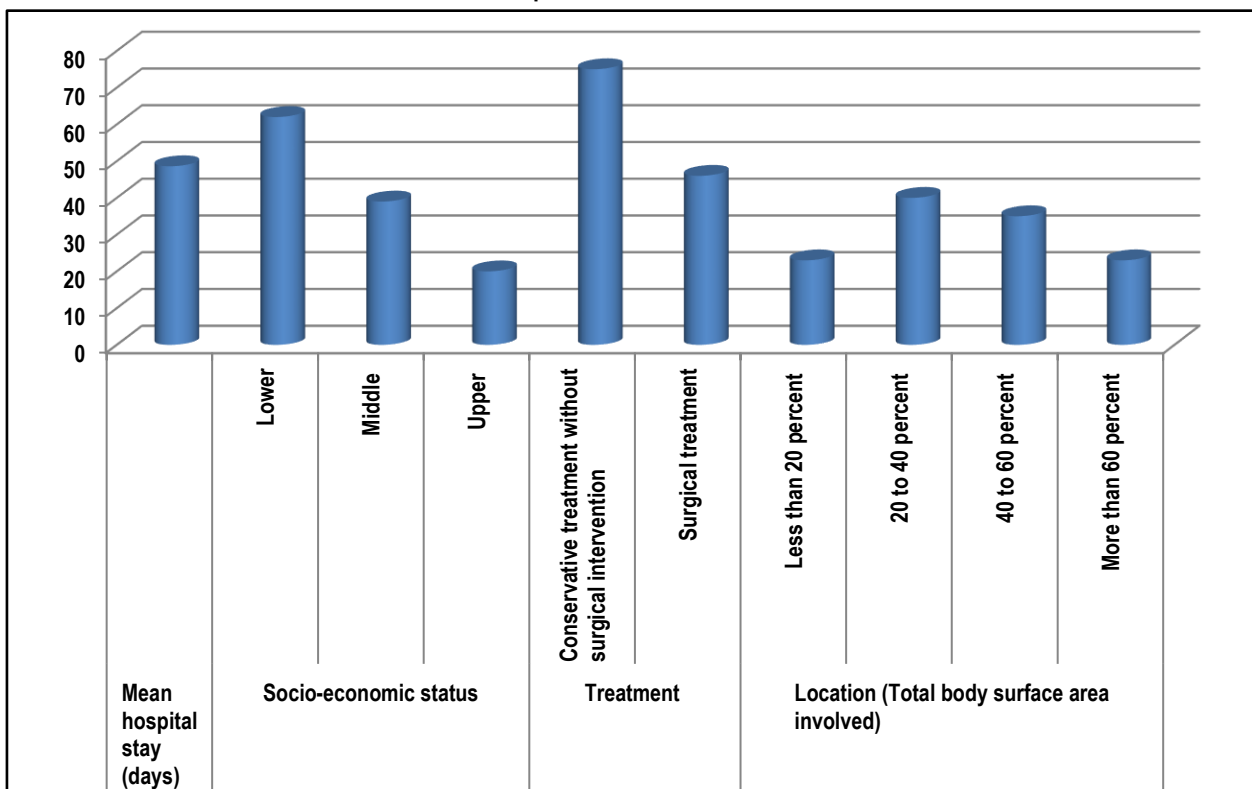
In the present study, mean hospital stay was 48.6 days. 62 patients belonged to the lower class, while 39 patients belonged to middle class.

Surgical treatment was carried out in 46 patients, while conservative treatment without surgical intervention was done in 75 patients. Total body surface area of more than 60 percent was involved in 23 cases.

**Graph 1: Demographic profile**



**Graph 2: Clinical variables**



**Table 1: Etiologic factor of burn**

Cause	Number of patients	Percentage of patients
Scald	59	48.76
High voltage injuries	22	18.18
Lightening	5	4.14
Flame	35	28.92

**Table 2: Clinical variables**

Variable	Number	
Mean hospital stay (days)	48.6	
Socio-economic status	Lower	62
	Middle	39
	Upper	20
Treatment	Conservative treatment without surgical intervention	75
	Surgical treatment	46
Location (Total body surface area involved)	Less than 20 percent	23
	20 to 40 percent	40
	40 to 60 percent	35
	More than 60 percent	23

**DISCUSSION**

Burns are the third most common cause of mortality in children and adolescents. They are also a major cause of morbidity and mortality in individuals of all age groups, particularly in individuals living in the developing countries. The epidemiology of burns is diverse across the world and also within a country because of differences in the cultural and socio-economic factors and the availability of healthcare facilities. The incidence of burns varies across countries, populations, and time. The severity of a burn depends on the degree of heat, duration of exposure, and thickness of the involved skin.<sup>6, 7</sup>

The World Health Organization estimates that the lifetime incidence of severe burns is 1% and that more than 300,000 people die annually from fire-related burns worldwide. In addition, the prevalence of burns is significantly higher in developing countries than in developed ones. Due to damage to the skin and other organs, burns can lead to open wounds; disability, death, major economic consequences, severe emotional and psychological complications, and economic burden.<sup>8-10</sup> Therefore, burn patients require not only acute primary treatment but also subsequent rehabilitation, reconstruction and long-term anti-scar therapy. Although more than 90% of all burns are preventable, burns remain common and are a major public health problem.<sup>11</sup> Hence; the present retrospective study was undertaken for assessing the 121 burn patients admitted to the surgery department.

A total of 121 burn patients were analyzed in the present study. Mean age of the burn patients of the present study was 9.46 years. 50.41 percent of the patients less than 15 years of age. 23.97 percent of the patients belong to the age group of 15 to 30 years. 76.03 percent of the patients were males while the remaining were females. Scald and flame were the most common cause of burn, found to be responsible for 48.76 percent and 28.92 percent of the cases respectively. While primary prevention aims at reducing the incidence of burns, secondary prevention

relies on measures that mitigate the lesions caused by burn injuries and requires appropriate infrastructures, equipment, and an organized team in a burns care centre. Also, secondary prevention entails a deep analysis of burns characteristics to reduce morbidity and mortality. In the last decades, in developed countries, secondary prevention programs, based on building burn care centres and training of specialized personnel, led to a significant reduction of mortality and disabilities.<sup>10</sup> Ozkaya NK et al determined the severity of the tandoor burns in a city in Eastern Anatolia and to attract attention for the prevention of tandoor burns. A retrospective evaluation was made of the registration data of burns hospitalized. A record was made of patient variables including burn type, age, gender, socioeconomic status, and amputation site and level. To emphasize the importance of tandoor burns, the data were classified as tandoor (8.8%) and other types of burns (91.2%). Tandoor burns were the fourth-most common cause of burn. While the rate of amputation in other burn types was 1.26%, the amputation rate was 9.09% in tandoor burns. In the 0–3 years of age group, the percentage of tandoor burns was significantly higher. In respect of tandoor burns, more amputations were performed on children than on adults. Tandoor is used in many places in the world for various purposes (as sociocultural habits, cooking, and warming, especially in low-socioeconomic areas). Increasing protective measures in the use of tandoor may be useful for reducing the amputations due to tandoor burns and its possible long lifetime consequences.<sup>12</sup>

In the present study, mean hospital stay was 48.6 days. 62 patients belonged to the lower class, while 39 patients belonged to middle class. Surgical treatment was carried out in 46 patients, while conservative treatment without surgical intervention was done in 75 patients. Total body surface area of more than 60 percent was involved in 23 cases. Duci SB et al determined the causes of extensive burn injuries in our population, sex, age, distribution of extensive burn injuries by years, duration of treatment, the methods of treatment and mortality. In this

retrospective study, we retrospectively analyzed data of 69 patients during the 4-year period, with extensive burn injuries admitted to the ICU. Among them, 53 patients were males and 16 were females with a male to female ratio of 3.3:1. The high rate of transferring patients for treatment abroad to other countries of 28.9% and high mortality rate of extensive burns in our country with 11 cases (15.9%) is a reflection of lack of burn care in our department.<sup>13</sup>

## CONCLUSION

From the above results, it can be concluded that prevalence of burn is significantly high among children, thereby associate with prolonged hospital stays. However; further studies are recommended.

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