

Epidemiology of Burned Patients Admitted to Mataria Burn Unit, during the Last Five Years

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ABSTRACT

Aim of Work: This retrospective study is to analyse the data from the medical records of 420 burned patients, who admitted during the period from 2011-2015 to the Burn Unit of Mataria Teaching Hospital. Data concerning burn patients, their age, sex, the causative agents, depth of burn, extent of burn, degree of burn, risk factors, duration of hospital stay, complications and overall mortality were analyzed.

Material & Methods: A total of 420 burned patients with a mean age of (12±8) years of these patients 48% were males and 52% were females, with male to female ratio of (1:1.08). Total body surface area (TBSA) ranged from 10-40%. Scald burns were the commonest type of injury (63%) followed by flame burns (33%), electrical burns (3%) and chemical burns (1%).

Results: The overall mortality rate was (5%). The highest frequency of admissions of burn patients were during winter and burn injury in the majority of patients were accidental (91%), Suicidal burns were (8%) and homicidal by inflection of burn occurred in 1% of cases. The length of hospital stay among these patients ranged from 3 days to 45 days with a mean of 17 days. The upper limbs were the most commonly affected body regions in 65% of cases followed by the head and neck in 60% of cases, the upper trunk in 50% of cases and finally the lower limbs in 35% of cases. This work provides a comprehensive study of hospitalized burn patients in Mataria Teaching Hospital Burn Unit.

Recommendations: Prevention is always the rule to be safe from burn but, once they occur, immediate and proper care should be given.

INTRODUCTION

Burns represent one of the major health problems in Egypt. Burns may be flame, scald, electrical, or chemical. The burns mortality has decreased in the recent past owing to the ongoing medical and surgical advances [15].

Burn injuries are among the most devastating injuries seen in the emergency unit ranging from minor to lethal injury. Burn injuries range from minor to severe events and present a major public health concern [23].

Most burn incidents occur in domestic settings because of defective household appliances, flammable agents in the home, clothing burns, and in some cases self-inflicted injuries. The majority of burn injuries sustained by children occur at home as the result of an accident thus most of these injuries are preventable. All cases require some degree of medical attention and many patients suffer morbidity or even die [12].

People affected are mostly of poor socioeconomic status and of employable age. Life styles and social factors contribute to the high occurrence of burns at home [14,16].

Treatment of burns that require specialized personnel and medical technologies is expensive and consumes considerable medical resources. Burns often result in severe deformity, disability and adverse psychological reactions, which affect patients and their families. Risk factors include low socioeconomic and poor living conditions, illiteracy, overcrowding and floor level cooking [17,27].

Aim of work:

The aim of this study is to collect epidemiological data which may help in preparing a prevention programme against burn accident.

MATERIAL AND METHODS

The burn unit of Mataria Teaching Hospital is the main regional referral center for burn injury from other regional hospitals and includes four ICU rooms.

The medical records of 420 burned patients admitted from 2011–2015 to the burn unit were reviewed retrospectively. After preparation of the study protocol and data-collecting forms, all files were reviewed and clinical parameters were extracted.

Analysis of the data concerning burn patients, extent, degree, causes, complications, risk factors and overall mortality were done retrospectively.

RESULTS

Four hundred and Twenty patients with a mean age of (12±8) years were included in the study. There were (48%) male patients and (52%) female patients i.e. the male to female ratio was (1:1.08).

The detailed age distribution of the burned patients in this study reveal the highest frequency during the first decade followed by the second decade, The age group less than twenty years of life represent 74% of these patients Fig. (1).

The majority of the patients had involvement of the upper limbs 65% of cases followed by the head and neck in 60% of cases, the upper trunk in 50% of cases and finally the lower limbs in 35% of cases Fig. (2).

The scald was the commonest cause of burn injury in 63% of patients, followed by flam in 33% of patients, electricity in 3% of patients, and chemicals in 1% of patients Fig. (3).

Of these 91% patients were accidentally inflicted while 8% of them were suicidal attempts; lastly 1% of cases were homicidally inflicted Fig. (4).

The extent of burn as a percentage of BSA was up to 10% in 24.3% of the cases, it ranged from 11% to 20% in 36.4%, from 21% to 30% in 30.2% and from 31% to 40% in 9.1% Fig. (5).

Fig. (6), shows the distribution of hospitalization of these burned patient along the months of the years. 40% were admitted during winter from December till February.

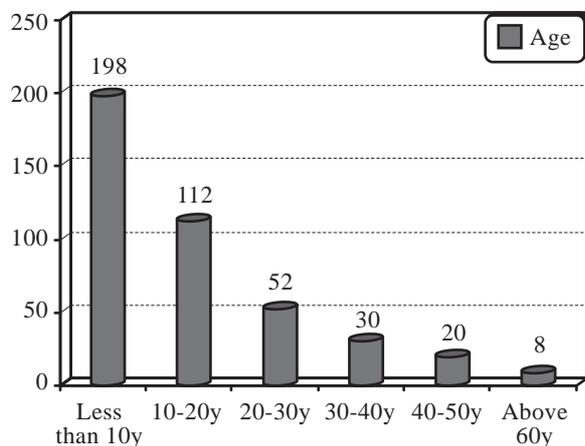


Fig. (1): Age distribution of 420 hospitalized burned patients.

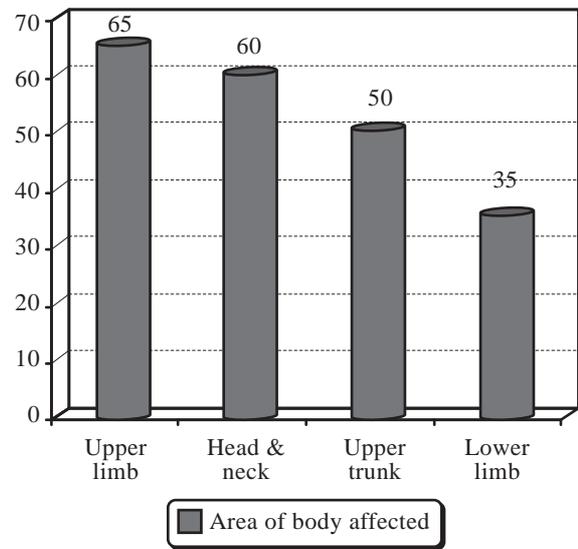


Fig. (2): Area of body affected.

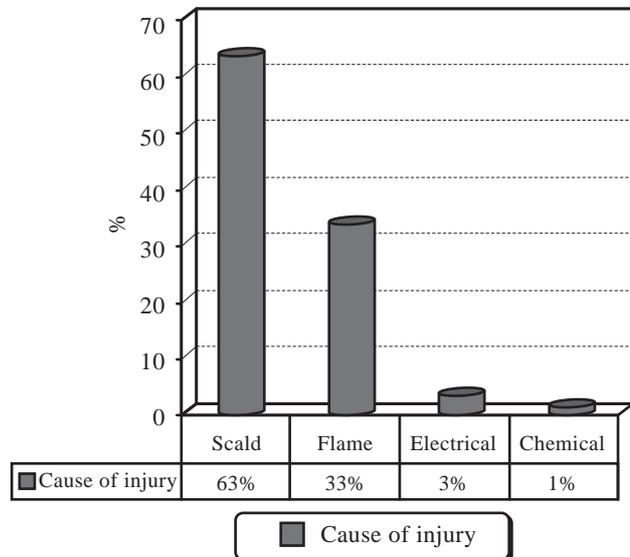


Fig. (3): Causes of the burns in 420 hospitalized burned patients.

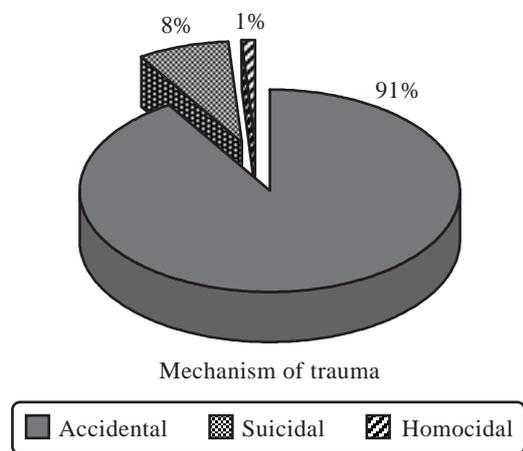


Fig. (4): Medicolegal background of the injuries.

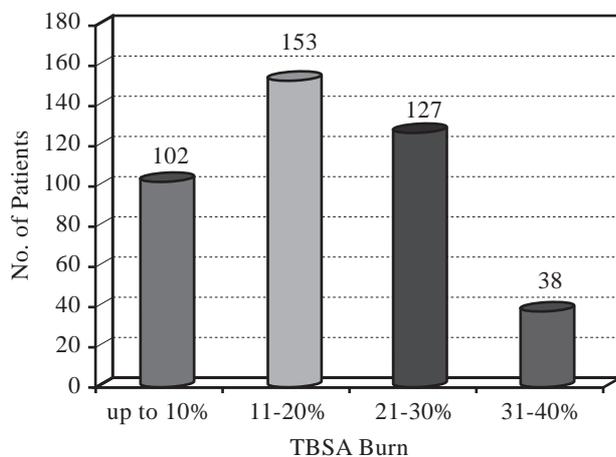


Fig. (5): Distribution according to T.B.S.A. burns.

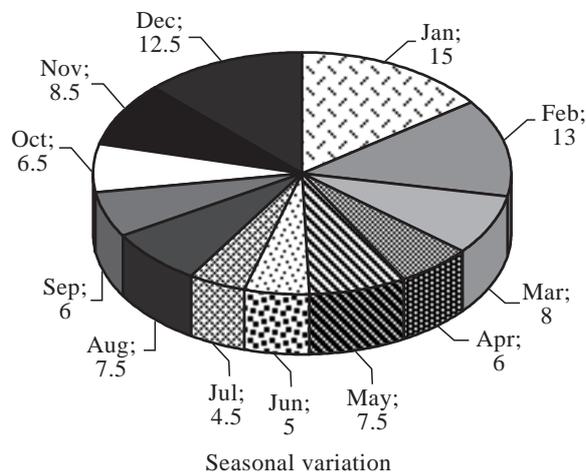


Fig. (6): Seasonal variation.

DISCUSSION

Burn injuries are among one the most stressing injuries seen in the emergency departments. As in other low income countries, burn in Egypt is considered a major health problem that is associated with high morbidity and mortality [1,5].

The care of burn patients is a complex team consuming substantial medical human resources. Severe burns may be fatal and survivors frequently suffer from sever disabling scars and psychological consequences.

Data pertaining to burn patients admitted to the burn unit in Mataria Teaching Hospital during the period from 2011-2015 were studied retrospectively in terms of admission, demographics, extent of burn (TBSA), degree of burn, causes of burn, duration of hospital stay and mortality.

A total of 420 burn injured hospitalized patients with a mean age (12 ± 8) years, among them 48%

were males and 52% were females. It is commonly thought that females are more affected in burn injuries [9]. In contrast, many other studies have identified a higher male to female ratio indicating that males are at a greater risk [14,17,19]. It is understandable that age and sex are important epidemiological determinants for burn injuries as young males are adventurous and the bread winner for the family, whereas females in the 2nd and 3rd decades of life are more involved in house work and cooking [5].

In this study, scald burns were the commonest type of injury (63% of cases) followed by flame (33% of cases), these are typical home related accidents as it was founder in this study where most commonly affected patients were during the first decade of life. Accidental scald burns in small children who come in contact with hot foods and liquid are common, reflecting overcrowding and playing in the floor in the vicinity of the cooking area and cooked food. The use of hot water in cooking and the lifestyle based on sitting and placing cooked foods on the floor are widespread in rural areas [11]. Stated that scalds are the most common cause of burn injury and most commonly occur in the kitchen. This fact has been recognized and programs focused on the prevention of scald related injuries and safety in kitchens is well established [26].

Gas and kerosene are most commonly involved as they are widely used as domestic fuel in Egypt especially in rural areas. Accidents frequently occur in these areas from explosion of gas cylinders lacking any safety measures this findings was consistent with other study [15].

In this study the overall mortality was 5% from January 2011 to December 2015 in contrast to other studies as El-Sonbaty and El-Oteify [7] who reported an overall mortality rate 33.5%, they attributed this high mortality due to the most of thier cases were flame burn with high percentage surface area body burned and with high incidence of sepsis in the burn wound but in this study most of cases were scald burn in children and most of these cases were minor to moderate burns and this findings consistent with other study e.g. Basha and AbdElkarim [3]. The mortality rate described in the literature may reflect the level of clinical care, burn severity and possibly some population characteristics that influences their general health condition [10].

The highest admissions of burn patients in the present study occurred during winter as gas and

kerosene were used for heating and as a fuel. In the majority of patients (91%) the burns occurred accidentally, and patients having doubtful history were also included in the accidental group in consistency to other studies [6,21,25].

Attempted suicide by burning accounted for 9% of the patients in our study, with female : male ratio of (2.4:1). This percent may account for the higher mortality of females from burns due to sever stress of the day life especially for the married women (household flames). Homicide by inflection of a burn injury is another issue that has received little attention in the literature in the past. In the present study 1% were affected and this probably an underestimate of the true figure due to reluctance to report the real reason for the injury [15].

The duration of hospital stay in the present study ranged from 3 days to 45 days with a mean of 17 days and it was significantly related to the extent of burns, reflecting the high cost of care in case of burn injuries. It should be noted that burns affecting 50% TBSA, hospitalization length was shorter, probably owing to the higher mortality rate [7].

The most commonly injured body regions in our study were the upper limbs (65%) followed by head and neck (60%) then the trunk (50%) and lower limbs (35%) and this findings consistent with the other studies [8] and in contrast with the other studies [10].

The majority of cases admitted to our centre in the five years under investigation were due to scalds burns (63%) and flames (33%). Other causes of burns represented about 4% of total burn admissions and these findings in contrast with other studies [11]. As flame burns are more common than scald burn explanation of this result most of cases were children (52%), and this findings consistent with results were found in many studies report that scalds are more common than flame injuries amongst children [1,17].

Conclusion:

We concluded that present study provide compelling evidence for performing population-based studies to identify risk factors that are susceptible to modification in each age group.

They also confirmed the occurrence of burn injuries as a significant health problem in Egypt as in many other countries.

Prevention should focus on the establishment of burn support groups, health education, improved

funding and provision of modern care facilities for burns would improve the overall outcome. The adage that "Prevention is better than cure" rings particularly true in the case of patients who have sustained burns, the majority of which are accidental in nature.

The results of this study clearly highlighted the specific epidemiological features of burned patients in our area, and thus should provide the necessary information to develop proper burn prevention programs, thereby reducing the frequency of burns and burn-related deaths.

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