



A RETROSPECTIVE ANALYSIS OF PAEDIATRIC SCALD BURNS IN A TERTIARY CARE HOSPITAL

Plastic Surgery

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ABSTRACT

Burns and burns -related trauma remains the most common form of injury in the children. Pediatric burns occur commonly in the developing countries, with the incidence many folds higher in the low- and moderate-income groups. Scalds consistently account for the majority of the burns in the childhood. The aim of this study was to provide recent epidemiological data on the pediatric scald burns. It was a retrospective study which encompassed a total of 150 admitted patients in the burns ward in a tertiary care hospital in Andhra Pradesh from Dec 2020 to Dec 2022. Aim of this study is to emphasize the recent demographic data, modalities and prevention of scald burns.

KEYWORDS

scald burns, pediatrics , epidemiology

INTRODUCTION

Scald burns in children are one of the most frequent injuries treated by the burns units.^{1,2} Sixty-five (65%) percentage of the children under the age of 4 years who require hospitalization, took into the study.³ Various risk factors attributed to the burn injuries in children are low socioeconomic conditions, poor living conditions, illiteracy, unattended children, overcrowding and floor level cooking on either kerosene pressure stove or an open fire⁴. It takes only 1 second for 156°F (69°C) liquid to cause a third-degree burn, 5 seconds at 140°F (60°C), and 15 seconds at 133°F (56°C). Hot drinks, such as coffee, tea, and hot chocolate are usually served at very hot temperatures exceeding 160°F, which often result in immediate burns that require hospitalization and surgery⁵. In most of the cases delay in bringing the child to the hospital for the treatment is mainly because of illiteracy , lack of transportation facilities and lack of financial support are still prevalent in developing countries. Development of an effective prevention program requires an understanding of the epidemiology and mechanism of injury surrounding the burn injury.

Literature Survey: This study has been conducted in a tertiary center- Andhra medical college Vishakhapatnam - government tertiary care referral center for the burns.

AIM OF THE STUDY

The Aim of this study was to determine the demographic, socioeconomic, and environmental factors responsible for scald burns in children & to spread awareness regarding prevention of burns in the pediatric age group and first aid.

METHODS

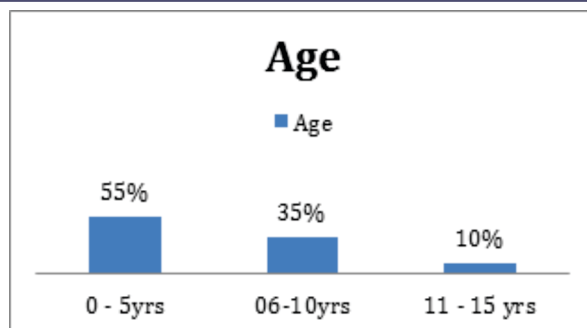
It is a retrospective review of scald burns in children under the age 15 years. These cases were admitted in to the Department of Plastic Surgery, Andhra Medical College, Vishakhapatnam, from December 2020 to December 2022. Key variables of interest include aetiology of scalds, location, total body surface area of the burn (%TBSA) involved , age and sex of the child, first aid received or not received after sustain the burns and any specific the management received.

Both inpatient and out patients were included in the study. Patients were attended and examined as per the Primary and Secondary Survey Protocol, followed by taking history and physical examination with the assessment of the burnt surface area and calculating the percentage of burnt area as per the Lund & Browder's Chart.

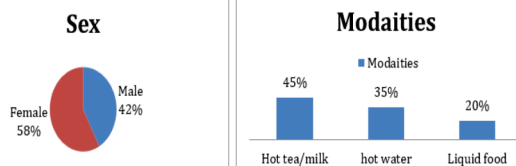
For descriptive statistics: Frequency, Percentage, Graphs, and Cross Tabs were used to present study results.

RESULTS

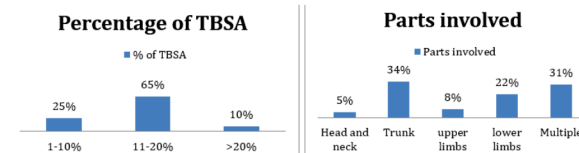
150 cases were taken into study. In our study, majority of them are under 5 years (55%) and the lowest age group involved is 11-15 years (10%).



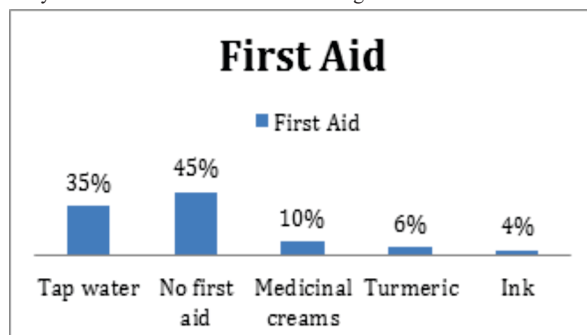
Majority of these children were females. The etiology of burns is of major importance in children to estimate the depth of burn injury. In our study maximum number of the children have suffered scald burns due to spillage of hot tea (45%), followed by spillage of hot water (35%).



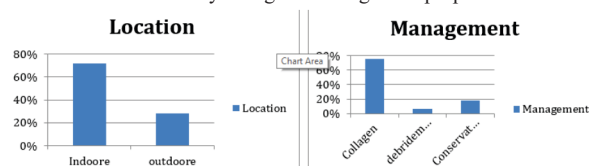
Majority of the cases shown burns surface area between 10- 20% TBSA (65%) with the trunk (34%) and multiple areas (31%) being involved in the burns.



Only 35% of cases received first aid management



Majority number of burn injuries (72 per cent) occurred in the indoor (in their house) conditions. This finding may be probably because of the curiosity of the children in exploring nature, particularly younger children. Studies have also shown that indoor burns occurred mostly in the kitchens especially in the houses using the floor for cooking. Such practices are common in rural India, among low socio economic groups. Majority of these burns were treated by wound toilet, debridement followed by collagen dressing under proper anesthesia.



DISCUSSION

Among 150 patients included in this study, out these children below 5 years are the most common group involved in the burns, with female preponderance (58%), Similar results were observed by the studies conducted by Rimmer et al⁶. The most common etiology of the burns is due to accidental spillage of hot tea followed by hot water similar to the other studies done by Rimmer et al⁶. The patient's age, type of the burns, mode of the injury, presence or absence of the inhalational component, & the gender were found to be the factors that influence the TBSA concerned. Most of the patients had a TBSA of 10 – 20% involving more often the Trunk. 72% of burns have occurred in the indoor environment, due to the of a lack of supervision, children may pull overhead kitchen utensils or they may accidentally fall over them containing hot liquids causing burns, similar to the observations by the Naveen et al⁷. Only 35% of these burns received first aid in the form of pouring tap water on the burnt surface followed by no first aid, attributing due to the lack of awareness. Majority of burn wounds are superficial and managed with collagen application.

CONCLUSION

The frequency of serious scald burns in children merits the creation of burn prevention strategies, specifically targeted to this vulnerable population. Prevention messages must be targeted to cover the lower socioeconomic population. A major drawback of this study was the inability to measure accurately the occurrence and risk factors for pediatric age group burns, since this was a referral hospital-based study.

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