

## Epidemiological Profile of Burns of Children Admitted to The Burn Unit in Meknes, Morocco

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### Abstract

### Original Research Article

It is a prospective study involving 45 burned children hospitalized and followed in the burn unit of the Mohammed V hospital in Meknes, Morocco, over a period spread over 2 years from 1 January 2017 to 31 December 2018. The average age was 4.28 years with a predilection for the age group of one to five years, with 66.6% of cases. Male involvement is found in 71.1% of cases. The burn occurs at home in 95.5% and accidentally in 97.7% of cases. Thermal burns accounted for 97.6% of the cases dominated by liquids in 91% of the cases. The total body surface area burned (TBSB) is  $\geq 20\%$  in 44.4%, no area of the body is spared, with trunk predilection (69%) followed by upper limbs (62%). The mortality rate was 6.6%. All these results will make it possible to determine the elements that can contribute to prevention, which remains the only way to avoid this pathology.

**Keywords:** Epidemiological, burns.

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## INTRODUCTION

The burning of the child is a real emergency in our practice, which can involve the vital or functional prognosis, with significant psychological and social impact[1,2].

Often of accidental origin, it is most often a domestic accident due to the most often to the ignorance of the risk at the young age and the family carelessness[1, 3, 5].

The objective of this work is to identify the epidemiological specificities of burned children and to analyze the circumstances of their occurrence in order to determine the elements that can contribute to reinforce the prevention, which remains the treatment of choice of this pathology.

## PATIENTS AND METHODS

The work consists of a prospective analysis of 45 cases of burns of children under the age of 16 taken in charge of the burn unit of the MohammedV hospital

in Meknes, Morocco, over a period of 2 years, from 1 January 2017 to 31 December 2018.

The data to be analyzed are the individual and social characteristics of the child (age, sex), the circumstances of occurrence (mechanism, cause, location) and the prognostic factors (initial management, time of care, extent, depth ) as well as the overall evolution.

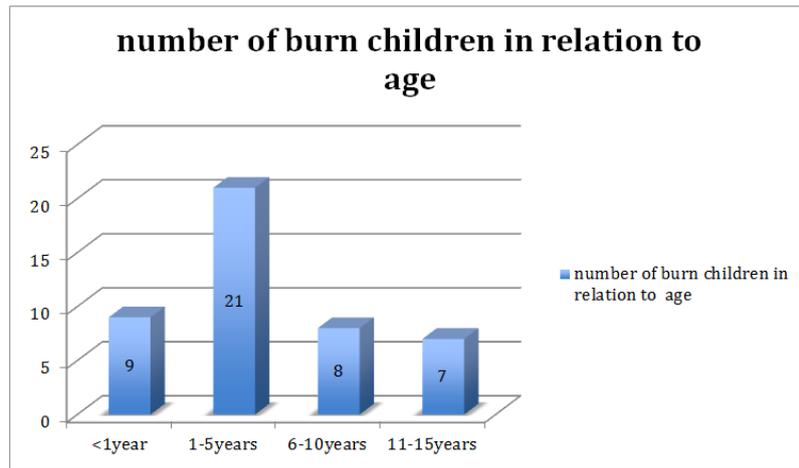
## RESULTS

### Impact

During the study period, 134 burn patients were admitted to the emergency room, of which 45 are children under 15 years of age, it represents 33.8% of admissions.

### Characteristics of patients

The average age is 4.28 years and the most recovered is from one to five years (66.6%). (Figure 1)



**Fig-1: Number of burn children n relation to age**

A male predominance (71.1%) is found with a sex ratio of 2.4 / 1. There is no significant difference in geographical origin (51.4% in urban areas vs. 48.6% in rural areas). The socioeconomic level is low in 87% of cases.

**Circumstances of the burn**

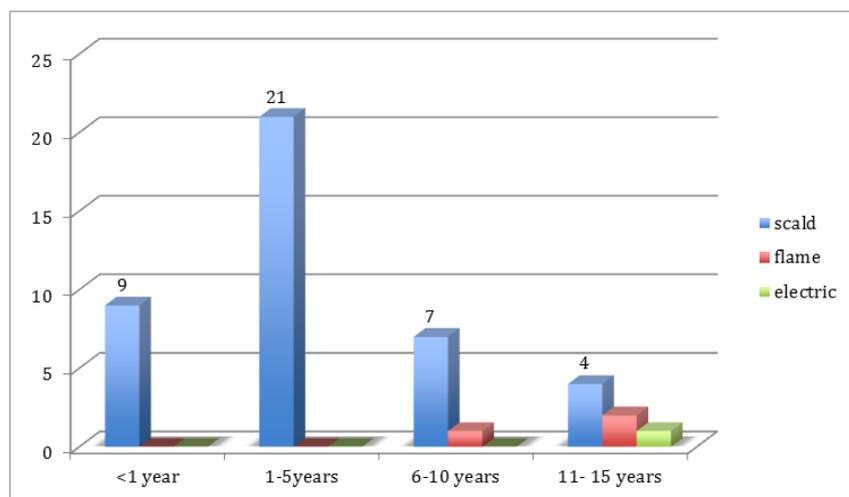
The burn accidentally occurs in 97.7% of the cases by imprudence of the children and or by carelessness of the parents.

The home (95.5%) remains the place where most the burn occurs regardless of its cause. The burn occurred in an accident at work in 2.2% of cases. Of all the burns, 97.6% are of thermal origin; scald burn is the leader in 91% of cases (table1).

**Table-1: Burn causes**

Burn cause	0-15 years (%)
Hot water	28 (62,2)
Hot liquids	13 (28,8)
Flame	3 (6,6)
electric	1 (2,2)
total	45 (33,6)

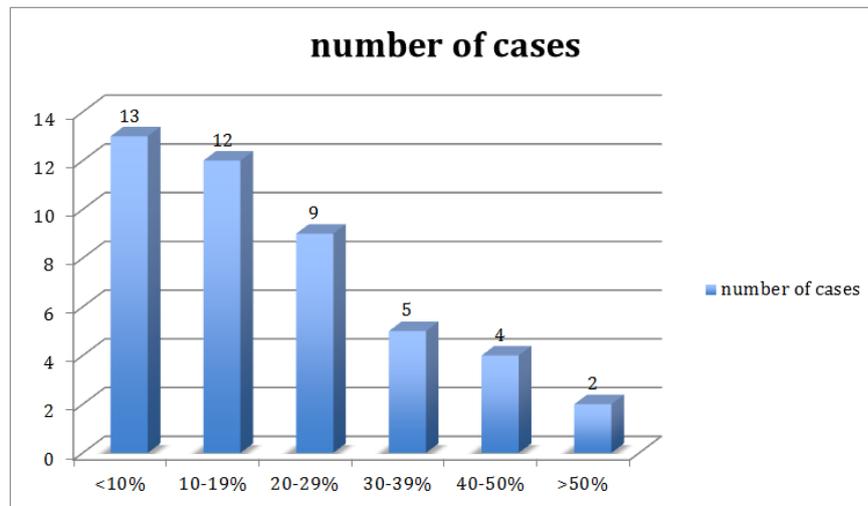
Scald burns are the most common causes in children under 5, unlike children over 10 years old, where flames are most common. 2.2% of the burns are electrical (Fig. 3).



**Fig-2: Burn causes n relations to age**

### Prognostic factors

The mean body burned area (TBSB) in our patients was 17%, with extremes ranging from six to 60% (Fig. 3).



**Fig-3: Number of cases in relation to TBSB**

### Distribution according to the total body surface area burned (TBSB)

The percentage of burned children with  $TBSB \geq 20\%$  is 44.4%. The evaluation of the depth of the lesions reveals that 60% of the burns area rather superficial, but extensive.

Regardless of age and gender, no area of the body is spared, with trunk predilection (69%) followed by upper limbs (62%). The hospital care period is greater than 6 hours in 73% of casent.

### Mortality

In this work, we deplored 3 deaths among our admitted, which makes a mortality rate of 6.6% with  $TBSB > 50\%$ .

## DISCUSSION

Burn remains a frequent accident in the child (impact of 29-51%) with important functional, aesthetic and psychological consequences[1,6,11]. The burn concerns both sexes, but à male predominance is found (71,1% vs. 29,9%). The carelessness of young age, combined with ignorance of risk, exposes children to mostly domestic accidents (90-95%) [1, 4, 5, 7, 10, 11]. The age group between 0 and 6 is by far the most threatened (50-70%) [1, 3, 4, 9, 12, 14].

Thermal burns are the most common causes (85-96%). The main mechanism is the contact with a hot liquid (50-80%) [1,4,7,8,11,15-17] burns by scalding are frequent because of the presence of the child nearby and maternal imprudence during the culinary preparation (tea, milk, soup, ...) the main cause of burning by flame is due to the small gas bottle of 3kg, it is most often collective burn, the child is the most severely affected because of its small size this is

sometimes due to a defect handling or sealing the bottle[1].

Electric burns (2.2%) mainly affect the teenager, either during fun accidents by ignorance of the risk during the holidays (climbing of pylons carrying lines of medium or high tension) or in the context of work accident ( inexperienced electrician apprentice). The vital prognosis depends on the speed of the care that starts from the place of the accident, the more the patient consults early better are he's chances of survival.

Prevention alone remains the only way to avoid this major public health problem by means of advertising campaigns aimed at educating parents and children about the dangers of the 3kg gas cylinder, the game with the various sources of electricity as well as the various agents causing the burn [1, 2, 18]

## CONCLUSION

Burns of the child remain a frequent emergency in our daily practice and present some peculiarities. The lesions caused are often shallow but serious in their extent. The management of a burned child requires a good evaluation of the severity of the lesions and the setting in condition of the patient obeys rules simple but often unknown. Good initial prehospital management reduces the morbidity and mortality associated with delayed care. However, only active prevention could contribute effectively to reducing the incidence, if not the severity, of these lesions.

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