



Pattern of Accidents in Children Less than 14 Years in Abha City, Kingdom of Saudi Arabia

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ABSTRACT

Objective: To determine the relative frequency and pattern of injuries in children less than 15 years of age in Abha city.

Methods: We conducted a retrospective study of all children aged 14 years and below seen with accidental injuries in an Emergency Department (ED) over period of 6 months from 1st February 2017 and reviewed their records. Patterns of injury among all children care giver, gender, cause, type of accident, admission and complications were analyzed.

Result: Total 285 cases were analyzed with 170 males (59.6%) and 115 females (40.35%). Among them, 277 were Saudi and 8 were non-Saudi, 170 patients were <2 years, 46 patients 2-5 years, 69 patients >5 years, reviewing the care giver 94% were the mother. The causes were foreign body (93 patient with foreign body aspiration, ingestion, ear, nose, and foot), falls (74 patients), burns (73 patients), road traffic accident (38 patients) and others (7 patients). Total 144 patients were discharged from Emergency Room (ER) (50.5%), whereas 119 patients stayed for 1 to 5 days, 13 patients stayed for 6-13 days and 13 patients stayed for 14-30 days. Around 33 patients were admitted to ICU with duration ranging from 1-20 days. Fortunately, no deaths but there were complications involving unilateral hearing loss (4 patients), unilateral visual loss (10 patients) due to blunt trauma to the eye and limping (2 patients). Upon discharge 5 patients had chronic disability (1 patients) with unilateral hearing loss, (2 patients) unilateral visual loss and (2 patients) with limping. **Conclusion:** Childhood accidents should be emphasized by the public and health care provider in given educational programs about the causes and prevention.

Keywords: Intensive care units, Hearing loss, Unilateral, World Health Organization, Retrospective studies, Saudi Arabia

Abbreviations: WHO: World Health Organization; ED: Emergency Department; ER: Emergency Room; ICU: Intensive Care Unit; CME: Continuing Medical Education

INTRODUCTION

Accidents are the most frequent causes of death in children over one year of age, in particular for older children. Therefore, any efforts to reduce mortality in childhood must address the reduction of accidents [1]. According to the World Health Organization (WHO) about 6 million people die of trauma worldwide each year. It is estimated that of these, 830,000 deaths and 50 million sequelae are aged from 0 to 14 years and over 90% of deaths occur in developing countries. Patterns of injury can be identified that reflect a person's age, the environment in which children and young people live, and the activities in which they are engaged [2]. More than 1000 of these children could be saved if proven injury prevention measures were applied worldwide [3].

In 1992, 559 children under 14 years of age died in England and Wales from injuries and poisoning [4]. Road traffic accidents remain the most frequent cause of accidental death in children, accounting for an average of 240 deaths each year [5]. They are also an important cause of death in young people, in particular young men. Child pedestrians' deaths are the most numerous, but many die on bicycles and in cars. Deaths from conflagrations and complications of burns and scalds have been highlighted, with house fires due to foam furniture causing just fewer than 100 deaths a year in England and Wales [6]. Nearly 50 children die each year from drowning in England and Wales. The causes for accidental deaths for England and Wales for 1992. Morbidity from accidents are a significant cause of handicap in children [7].

Head injuries, which may follow pedestrian, cycle, or passenger road traffic accidents, falls, or child abuse, are the major cause of handicap following injury [8]. Children may also be brain damaged following near drowning or suffocation episodes [8,9]. Burns scalds, and road traffic accidents may result in scarring and cosmetic damage which can be psychologically damaging to the child [9]. The child may be damaged by post-traumatic stress following the accident or from the effects of the subsequent hospital admission and treatment [10]. Childhood accidents are a frequent cause of attendance at A & E Departments [11]. It has been estimated that 2.33 million children attend an A & E department in England and Wales annually [12].

Although most of these injuries are relatively trivial, among them there are many that are serious [13]. Twelve per cent of children attending an A & E Department have fractures. Childhood accidents are also a frequent cause of admission to hospital. Between 5% and 10% of the children who attend hospital require admission [14].

The WHO works to prevent injuries and violence, mitigate their consequences, and enhance the quality of life for persons with disabilities [15]. It does so by supporting efforts to improve data collection; develop science-based approaches to prevention, control, and rehabilitation; disseminate proven and promising interventions; improve services for persons with disabilities, as well as victims and survivors of injuries and violence and their families; enhance teaching and training programs; and create multidisciplinary policies and action plans [15,16].

A Right to Safety

All children have the right to a safe environment and deserve protection from injury [17]. Many young lives could be saved by integrating child injury prevention into other global child health efforts. Improved child-friendly, emergency health services could also help reduce the consequences of injuries [18].

Injuries and violence can be studied and documented, and their causes understood and acted upon. Research has provided clear evidence that certain interventions can prevent injuries and violence [19].

METHODS

After ethical committee approval we conducted a retrospective study of all children aged 14 years and below seen with accidental injuries in an Emergency Department (ED) of Abha Maternity and Children hospital (AMCH) in Abha city, Southwestern, Saudi Arabia. AMCH is a tertiary care hospital with 300 beds with pediatric intensive care unit and neonatal intensive care unit. Over period of 6 months from 1st February 2017 the data reviewed with charts and analyzed the patterns of injury among all children seen in ER. Questionnaire were filled by medical students (which includes age, sex, nationality, cause and duration of admission, type of accident and sequelae) by interviewing their parents and care giver, data collected were analyzed by SPSS (version 21.0).

RESULTS

Total 285 cases were analyzed, 170 males (59.6%) and 115 females (40.4%) representing male to female ratio 1.5:1. Of them, 277 (97%) were Saudi and 8 (3%) were non-Saudi. Around 170 (59.6%) patients were with age less than 2 years, 46 (16%) patients 2-5 years, 69 patients (24%) above 5 years. In 277 (94%) cases, caregiver was the mother. The causes of accidents were foreign body 93 patients (32.5%) including foreign body aspiration, ingestion, ear, nose, and foot, falls in 74 (26%) cases, burns 73 patients (25.5%), road traffic accident 38 patients (13%) and others 7 patients (2.5%). 140 patients were discharged from ER (49%), whereas 119 patients (42%) stays from 1 to 5 days, 13 patients (4.5%) stay from 6-13 days and 13 patients (4.5%) stays from 14-30 days. Total 33 patients were admitted to ICU with duration ranging from 1-20 days. No deaths were recorded but there were complications involving such as unilateral hearing loss (4 patients), unilateral visual loss (10 patients) due to blunt trauma to the eye and limping (1 patient). At the time of discharge, 5 patients have chronic disability, 1 patient with unilateral hearing loss, 2 patients unilateral visual loss and 2 patients with limping (Figures 1 and 2).

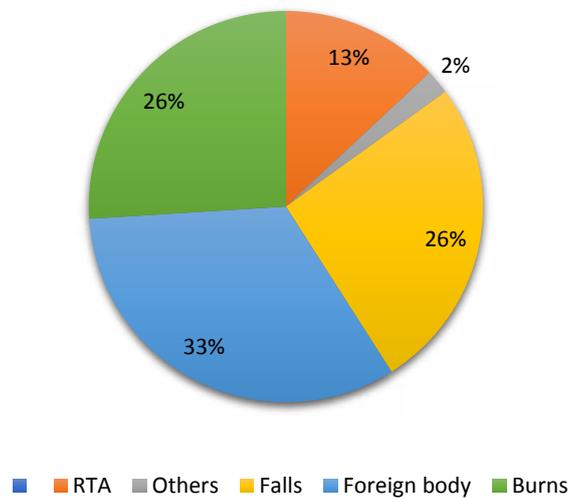


Figure 1 Causes of admission to the hospital

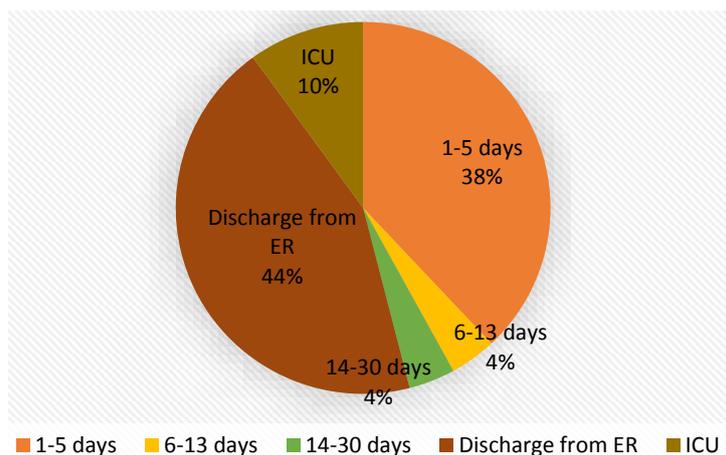


Figure 2 Duration of stay in the hospital

DISCUSSION

Unintentional injuries are the leading cause of morbidity and mortality among children in the worldwide. Each year, children of 0 to 19 years of age, more than 12,000 children die from unintentional injuries and more than 9.2 million are treated in emergency departments for nonfatal injuries [20]. Child injuries are preventable yet more than 9000 children died from injuries in the US in 2009 [21].

Our study revealed that males (56.6%) were more prone to have injury compared to females (40.4%) and this fact is supported by several international studies [20,22]. Whereas the prevalence of injuries was 9.7% which was less as compared to other studies [23]. Study finding shows the children were less than 2 years of age (59.6%) were more affected by injury which differ from international study which is showing more at age of 7 years and above.

As the mothers were the care giver in 94% cases which reflect the needs for mother education regarding preventive measures to decrease number of cases especially the foreign body. The causes were as following foreign body 32.5% with high percentage comparing to other study [23] as following foreign body aspiration, ingestion, ear, nose, and foot, the with 73 patients age less than 2 years (78.5%). Fall dawn 26% around 50% occurs in age more than 5 years, burns 25.5% cases interestingly all occurs in age less than 2 years, road traffic accident 13%, 50% of them were above age of 5 years and others 7 patients (2.5%). 140 patients were discharged from ER (49%), whereas 42% patients stay from 1 to 5 days, 4.5% patients stay from 6-13 days and 4.5% patients stays from 14-30 days. 33 patients were admitted to ICU (11.5%) with duration ranging from 1-20 days. Fortunately, no deaths but there are complications involving the following unilateral hearing loss (4 patients), unilateral visual loss (10 patients) due to blunt trauma to the eye and limping (2 patients).

At the time of discharge from the hospital, 5 patients had chronic disability, specifically, 1 patient with unilateral hearing loss, 2 patients with unilateral visual loss and 2 patients with limping.

CONCLUSION

It is an urgency to necessitate more preventive educational programs, raise awareness in public. Conduction of training and more Continuing Medical Educations (CMEs) to the health care providers to update the current medical information. More educational programs for parents to prevent the injuries in children and improve long term outcome. Basic information about how to prevent injuries and health hazards should be added in the children curriculum. Emphasis should be on mock drills to be conducted by the ministry of health with collaboration of other related ministries to raise public awareness.

DECLARATION

Conflict of Interest

The authors and planners have disclosed no potential conflicts of interest, financial or otherwise.

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