

Pattern of Childhood Injury Presenting at General Hospital Aliero, Nigeria

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Abstract

Background: Injuries are important causes of morbidity and mortality in childhood. Children are vulnerable to injuries of any kind.

Method: This is a prospective study of children with injuries who presented at General Hospital Aliero. Records were kept of injuries in children age fifteen years and below that occurred from February to November 2006 at General Hospital, Aliero. We aim to study the pattern of childhood injuries presenting at General Hospital Aliero, Nigeria

Result: Most of the injuries occurred at home 31 (48.4%) and on the road 28(43.8%). Road traffic accidents occurred when a moving vehicle or motorcycle hit children or children falling from moving trucks. Boys 39(60.9%) were more involved in injuries than girls 25(39.1%). Mortality occurred in three injured children.

Conclusion: Childhood injuries occur more in the boys and commonly Parents and guardians should not leave children unattended even for a moment. Children should always be in company of an adult when outside the home. Childhood injury can lead to serious work and financial problems for families. Health promoting and injury preventive interventions should be instituted to reduce the rate of injuries and their effects on children.

Key Words: Children, Injury, Road Traffic Accident, Home

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Introduction

Accidents occur both at home and outside the home. Childhood trauma data, in developing countries requires updating to highlight problems in childhood care¹. Trauma is the commonest surgical problem seen in childhood in the accident and emergency and is largely preventable. Children have good outcome from trauma with low mortality but this can be further decreased¹. This is possible by preventing injuries and

quick and prompt management of these injuries when they occur.

Infancy and childhood are periods of development in which physical abilities outstrip understanding and caution. Inevitably, they are periods of accidents, some trivial and some quite serious².

Injury and violence are serious threats to the health of children. Children are at high risk of many injuries that can lead to death or disability. Every parent's worst fear is a serious injury to his or her child. However, most parents cannot identify specific prevention strategies and believe that simply "being careful" is adequate protection³.

Minor accidents and injuries are part of childhood and growing up. Injuries are among the leading causes of death and disability in the world. They affect all populations regardless of age, sex, income, or geographic region. Accidents occurring at home include falls from staircase, furniture, roofs, trees, burns from fire, electric, hot water, and oil. Injury outside the home results from play at the playground, road traffic accidents as vehicle occupants, pedestrians, bicycle, and motorcycle. Accidents outside the home are commoner in older children. Injuries resulting from fall or road traffic accidents are fracture involving any part of the body.

Injuries both violent and unintentional are one of the most significant public health issues facing children today⁵. Injuries can cause death. Most of these injury deaths can be prevented.

Infants and children are at greater risk for many injuries than adults are. Children are curious and like to explore their environment. Young children have immature physical co-ordination and cognitive abilities and are at risk of falls. Developing bones and muscles may make them more susceptible to injury in car crashes if they are not properly restrained. Play includes many fun types of activities that also put children at risk for injury such as running, climbing and jumping.

All injuries regardless of their severity have important implications in terms of cost, transient disabilities, loss of school time, associated anxiety and overall quality of family life.

Most accidents occur in the home than on the roads, and relatively few occur in school⁵. The greatest risk lies in the under five year's age group, boys being more susceptible after the age of one year than girls. Most injuries are preventable by modifying the child's environment. Safe environment prevent the child from coming in contact with the cause. Parent focussed and environmental strategies are effective in preventing injuries particularly those occurring in young children at home⁷. Decreasing the burden of injuries is among the main challenges for public health in the next century⁴. Injuries are preventable and many effective strategies are available. The aim of this study is to determine the causes of childhood injuries.

Material and Methods

This is a prospective study of children with injuries who presented at General Hospital Aliero. General Hospital Aliero is in a rural area located in Kebbi State in the northern part of Nigeria. All children brought into the hospital with complaints of injury of various kinds were included in the study. The period of study was ten months from January to November 2006. The sex, cause of accident, age of child, site of injury and outcome were recorded.

Result

Sixty children had various injuries during the period of study. Fifteen (23.4%) of injuries occurred during play. Other causes of injuries were from motorcycle accident 13(20.3%), 8(12.5%) fall from trees, 8(12.5%) pedestrians knocked down by moving vehicles, 7(10.9%) fell from a moving vehicle, 6(9.4%) burns, 4(6.3%) fell into wells, 2(3.1%) electric shock and 1(1.6%) assault as shown in Table I.

Figure I show sex distribution of the injured children. Out of the 64 injured children, 39(60.9%) were boys while 25(39.1%) were girls. Table II shows the site of injury. Thirty-one (48.4%) of injuries occurred at home. Twenty-eight (43.8%) occurred on the road, 2(3.1%) of children were injured at school, 2(3.1%) at the farm and 1(1.6%) at the playground. Death occurred in three children. Two died from complications head injury following a fall into wells while a moving vehicle knocked one down. The dept of two wells that children fell into are 34.4 feet and 37.7 feet. The children were

seen some hours after injury when an adult came to fetch water from the well and found a human being in it. Those who fell from trees presented with injuries on the limbs. Children travelling with there parents in trucks sitting on goods fell from the moving vehicle.

Lacerations are the commonest type of injuries and may occur because of playing with knives and falling while running.

At presentation, a brief history on the cause of accident and injuries, injuries sustained and quick physical examination of the child was done. Dressing and suturing of wounds was done depending on the size. Laboratory investigation such as packed cell volume was done. Anaemia was corrected. Analgesics were administered for pain. Other management at presentation was administration of tetanus toxoid and antibiotics against wound infection. The wound was cleaned and dressed. Intravenous assess was maintained depending on the state of the patient.

FIGURE 1
PIE CHART SHOWING SEX DISTRIBUTION

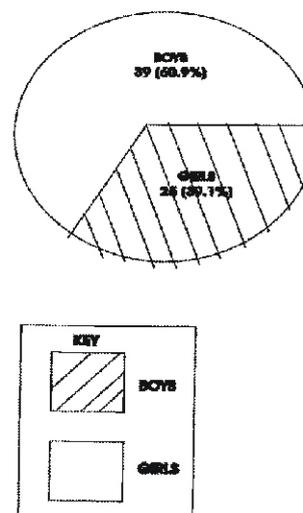


Figure 1 CHILDHOOD INJURY

Table I: Cause of accident

Cause Of Accident	n (%)
Injury at play	15(23.4)
Hit by motorcycle (Road Traffic Accident)	13(20.3)
Fall from trees	8(12.5)
Hit by vehicle (Road Traffic Accident)	8(12.5)
Fall from moving vehicle (Road Traffic Accident)	7(10.9)
Burns	6(9.4)
Fall into well	4(6.3)
Electric shock	2(3.1)
Assault	1(1.6)
Total	64

Table II: Place Where Injury Occurred

Place of injury	n	%
Home	31	48.4
Road	28	43.8
School	2	3.1
Farm	2	3.1
Playground	1	1.6
Total	64	100

Discussion

Most of the injuries occurred at home while playing; falling from trees, fall into wells, burns, and electric shock. Road traffic accidents (RTA) are a leading cause of death worldwide⁸. Road traffic accident (RTA) is a common cause of morbidity and mortality in all parts of the world⁹. Recent studies have shown an increase in the rate of road traffic accident¹⁰. In this study, road traffic accident accounts for 43.7% (28) of injuries. This include 20.3% (13) knocked down by motorcycle, 12.5% (8) knocked own by a moving vehicle and 10.9% (7) fell from a moving lorry when they were travelling with their parents and guardians. Motorcycle accidents cause a high proportion of road traffic accidents related injuries. In this study out of the 28 children involved in road traffic accident, 13(46.4%) were involved in motor cycle accident, 8(28.6%) hit by a moving vehicle and 7 (25%) fell from a moving vehicle while travelling with there parents. Most cases of injuries presented in the hospital immediately after the injury occurred and injuries to the extremities constituted the bulk of the injuries. Those with bleeding wound and severe pains presented within the first one hour of injury. Some others administered local treatment at home before presenting in hospital. As pedestrians, children are particularly vulnerable because developmentally they cannot properly gauge the speed of traffic and they lack the perceptual motor skills to avoid the path of oncoming traffic when they cross the road compared to adults. Motorcycles are very popular means of transportation in Aliero. Motorcycle accident is an important cause of limb injuries in the developing world¹². Reckless driving by motor cyclists, no-functional headlamps at night and disobeying traffic rules and regulations adds to the risk of injury. In children, the variety of injuries that may occur following road traffic accident is vast. The results of many researches on the causes of road traffic accidents have always resolved around three main factors, the human, environmental, and vehicular factors¹³.

Limb fracture and head injuries are common with falls⁶. When falling in a vertical position landing with head of limb. The male sex was the ones who sustained injury from fall from tree. This occurred during the fruiting season of the mango tree when they climbed the

mango tree to help themselves with the fruit. Four, (6.3%) of the children fell into wells when they tried to fetch water from it. Mortality occurred in two children who were rescued 24 hours after the accident and they died from head injury though post-mortem could not be done due to cultural and religious restrictions.

Burns are potential hazard in every home. Burns results from any hot or heated source or chemical reactions that release heat, flame, steam, or from hot or molten liquid, contact with hot cooking pan and electrical burns. Burns are easy to prevent in the home if children are kept away from things that will result in burns and left alone at home since they can reach out to pots, kettles, frying pan and containers and cups containing hot liquids. Burns occur commonly in children who sustain their injuries at home¹⁴. The major cause of burns in recent times is adulteration of kerosene, which goes up into flames when trying to light a kerosene lamp, or kerosene cooking stove. 6(9.4%) of children in this study had burns. 4 from hot water and 2 from contaminated kerosene. Burns especially scalds from hot water and liquids are some of the common childhood accidents¹⁵. Babies and young children are especially susceptible. They are curious, small and have sensitive skin that needs extra protection. Children reaching up to grasp kettles or pot handle can drench themselves in boiling water and the larger the volume, the more severe the injury in terms of area and dept. Severity of burns depends on cause, extent, duration of exposure, skin thickness and anatomical. Burns and scalds are a particularly distressing form of injury as scarring, disfigurement and psychological trauma may continue to affect the child for life⁶. Paediatric burn injuries with devastating consequences are common in Sub-Saharan Africa¹⁶. Many burns are preventable.

Minor electrocution is a common household hazard. Electric shock occurs when a person's is exposed to an electrical energy source. Electricity travels through conductors. Any material, which allows electrical flow through it, tries to reach the ground. Exposure to electrical energy may result in no injury at all or may result in devastating damage or death. Children are prone to high voltage shock caused by mischievous exploration. The type of burns and severity depends on the number of layers of skin affected. Heating due to resistance can cause extensive and deep burns. The severity of damage is related to many factors, the most important of which are the amount of energy transferred and the nature and extent of the tissues over which it is applied¹⁷. Also the type of current whether direct or alternating current, the body's resistance to the current,

path through the body and how long the body remains in contact with the current. Every part of the body is vulnerable. The interplay of these factors can produce effects ranging from barely noticeable tingling to instant death. 2 (3.1%) children in this study had electric shock at home.

Young children need to be kept away from electrical appliances. Electric outlets require safety covers. Parents and guardians need to be alert to possible electric dangers in the home. 1 (1.6%) child was assaulted at the playground.

Adult caregivers of young children are responsible for preventing childhood injuries. Accidents and their prevention can be divided into those occurring at home and those that happen outside the home. Environmental measures to lessen traffic speed and volume in the neighbourhood.

Children should not be left alone at any point in time when travelling in trucks with an adult. Children should

always be under an adult caregiver especially those that are yet to start talking and those still creeping. They should not lit lamps or cooking stoves. Lamps and cooking stoves should be put off when refilling with kerosene. Children should cross the road with an adult and should always look out for an oncoming vehicle or motor cycle. Children should be cautioned about tree climbing.

There is therefore a need especially in developing countries to determine the relative contributions made by injuries singly and in combinations to childhood morbidity and mortality in hospital practice¹⁸.

There is need for urgent work to reduce the preventable causes of trauma. To identify the common causes of injuries among the paediatric population. Further studies are recommended to help find out methods to minimize accidental injuries in children. Trauma prevention and care programmes should always address injuries in children.

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