



## HOME SAFETY & DOMESTIC ACCIDENTS: AN OVERVIEW OF CAUSES AND PREVENTION

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### ABSTRACT

Children with unintentional injuries in children are becoming a serious social problem in terms of disability and death. Unintentional injuries are due to domestic accidents which are preventable. The bubbling enthusiasm of children in younger age particularly under five years of age makes them suffer the most. The innate curiosity and age appropriate ignorance about risks and dangers involved in their play and exploration also contribute to their risk of unintentional injury. Parents and caretakers with their vigilance can create awareness about the risks among the children so that their play and creativity, discoveries become more safe and healthy. This article takes into account the common domestic accidents, their causes and the simple preventive measures that can protect the child from injuries, disabilities and deaths.

### KEYWORDS :

#### INTRODUCTION

For most, the word "home" signifies the feelings of safety, warmth, and security. Everybody spends huge time, money, and efforts into buying or renting a home. In spite of this, people are often too reluctant to even begin thinking about how to prevent domestic hazards or accidents. This is especially the case for families with young children or seniors.<sup>1</sup>

Unintentional injuries in and around the home are a leading cause of preventable death for children under five years and are a major cause of ill health and serious disability. The reduction of unintentional injuries in childhood remains an important public health priority.<sup>1,2</sup>

Unintentional injuries also contribute to major health inequality. The emergency hospital admission rate for unintentional injuries among the under-fives is 38% higher for children from the most deprived areas compared with children from the least deprived. The research indicates that for some injury types the inequality may be much larger.<sup>1</sup>

According to WHO report approximately 830000 children under 18 years die every year as a result of an unintentional injury. Tens of millions of children require hospital care every year for non-fatal injuries. 95% of child injuries occur in low-income and middle-income countries. In high-income countries, child injuries account for 40% of all child deaths.<sup>2</sup>

#### COMMON DOMESTIC ACCIDENTS

In 2014, more than 2 million poisoning incidents were reported to poison control centers nationwide. 1/5 older adults who fall sustain a broken bone or head injury.<sup>3</sup>

Choking is the USA's fourth largest cause of accidental death. There were nearly 5,000 victims in 2014. In the past decade, deaths from drowning in a bathtub have gone up 70%. More than 365,000 fires blazed US homes in 2015, causing smoke damage, Falls, fires and burns, poisoning, these, choking and suffocation are the most common home accidents all over world. Five causes account for 90% of unintentional injury hospital admissions of this age group and are a significant cause of preventable death and serious long-term harm - these are choking, suffocation and strangulation; falls; poisoning; burns and scalds; and drowning.<sup>2</sup>

#### Falls

Falling may seem like a simple hazard. But it comes with many painful consequences. Falls are especially detrimental to young

children and seniors aged 60 and up. Some of the common products at home that are often associated with severe falls include baby walkers, playground equipment like trampolines, and windows.<sup>4</sup>

#### Burns and Fires

Open flames are not the main cause of fires and burns. Improperly wired electrical and hot water are often the culprit in serious home hazards. Fires and burns account for a third of accidental deaths at home, while also being the ninth largest cause of injuries at home that end up with emergency room visits.<sup>4</sup>

#### Drowning

Most drownings at home involve children who have been out of their parent's sight for less than five minutes. Drownings are the fifth leading cause of home injury deaths in the states, with 80% of drowning victims being children under the age of 4. One third of drownings occur in the pool with half occurring elsewhere like in the swimming pool.<sup>4</sup>

#### Choking and Suffocation

Obstructed airway is the leading cause of death for children under one year of age. It is the fourth leading cause of accidental home injury deaths India. Obstructed airways are divided into three main types - suffocation, choking, and strangulation.

60% of infant suffocation happens at home in their beds or cribs when a pillow, blanket, or adult rolls over on them in their sleep which blocks their nose and mouth from breathing.<sup>4</sup>

Choking is different from suffocation in that it involves something obstructing their airway internally, like a part of a toy or piece of food stuck in a person's throat.

#### Poisoning

Poisoning is something that affects people of all ages, contrary to popular belief. Many feel that only younger children are susceptible to this because they are more likely to get themselves into cleaning supplies and other toxic household products, and overdose on vitamins and medicines if not taken under proper adult supervision. However, adults are also prone to poisoning from things like appetite suppressants, heroine, amphetamines, antidepressants, motor vehicle exhaust gas, anesthetics, and even caffeine and alcohol. While not visible, carbon monoxide poisoning is detrimental to everyone's health.<sup>4</sup>

#### CAUSES OF DOMESTIC ACCIDENTS

India with high population density and the jungles of concrete,

make & its population much more vulnerable to the domestic accidents. Unsafe living conditions, very young parents with inadequate knowledge, poor educational levels, gender discrimination and poverty dividing the people into urban and rural, rich and poor, privileged and under privileged; are some of the major contributors to the risk of domestic accidents.<sup>5</sup>

Unintentional injuries for the under-fives tend to happen in and around the home. They are linked to a number of factors including: child development, the physical environment in the home, the knowledge and behaviour of parents and other carers (including literacy), overcrowding and homelessness, the availability of safety equipment, new consumer products in the home.

Accident types have different profiles – some are often fatal, such as choking, strangulation and drowning. Others, such as burns and scalds, result in hospitalization and sometimes serious long-term acquired disability, but rarely death.<sup>5</sup>

Children are not just little adults. They live in a world built for adults. Studies have reported strong association between injuries and a child's age, developmental stage, how the child interacts with the world, and activities undertaken.<sup>6</sup>

Over 98% of child deaths from drowning occur in low-income or middle-income countries, usually in open bodies of water like lakes, streams, etc. In high-income countries, most drowning events happen in swimming pools.<sup>7</sup>

The death rate from burns is 11 times higher in low-income and middle-income countries than in low-income and middle-income countries than in high-income countries. Infants are at highest risk of death from burns. Nearly 75% of non-fatal burns are from hot liquids, hot tap water or steam. Many children are disfigured for life from burns.<sup>7</sup>

Among the fatal falls, 60% are from a height. In some countries, nearly half of the children taken to emergency clinics are from falling. Non-fatal falls result in significant disability adjusted life years lost.<sup>8</sup>

### PREVENTION OF DOMESTIC ACCIDENTS

Most mishaps at home can be easily prevented, which is why it's so important to take the necessary -- and often fairly simple -- measures to do so.<sup>7</sup>

Covering water bodies, isolation fencing (four-sided) around swimming pools and other water bodies, wearing personal flotation devices and ensuring immediate resuscitation, would probably work to save lives. However, the best intervention would be smart parents/carers, well educated and alert to keep a watchful eye while children are around water or playing with water.<sup>7</sup>

The strategies such as setting (and enforcing) laws on smoke alarms, developing and implementing a standard for child-resistant lighters, setting (and enforcing) laws on hot tap water temperature, and educating the public and treating patients at a dedicated burns center are possible.<sup>7</sup> However, the education of public and parents in particular would be a sure shot remedy to this problem.<sup>8</sup>

The interventions of redesigning nursery furniture and other products, establishing playground standards for the depth of appropriate surface material, height of equipment and maintenance, legislating for window guards and implementing multifaceted community programmes such as 'Children can't fly' would work in countries with high literacy rate.<sup>7</sup> However, in countries like India, the parents' education in this regard would be more effective.<sup>8</sup>

On top of paying the rent/mortgage, bills, and housekeeping, keeping your residence safe is a responsibility that comes with home ownership. When the necessary measures are taken,

residents will know how to handle hazards appropriately before or as they come up.<sup>9</sup>

### SIMPLE HOME SAFETY MEASURES

#### Safety tips for Falls

- Install safety guards across entries to stairs and balconies, and always supervise your child on stairs and balconies, even if you have guards.
- Lock windows – particularly upper-storey windows – or shield them with firmly attached window guards so your child can't fall out.
- Use low-power night lights and an efficient torch to make looking after your baby at night safer.
- Leave a hall light on at night, or use sensor lights to make it easier for older children to get to the toilet without tripping.
- Lock away hand tools like saws and drills, and keep lawnmowers, chainsaws and other sharp tools out of reach.
- Make sure your child is out of the way when you're using tools.
- Keep floors free of toys and obstructions.
- Exercise close supervision when toddler learns to walk.
- Never leave babies unattended on raised surfaces.
- Check constantly floor surface for wear and tear.
- Keep floor dry.<sup>9,10</sup>

#### Safety Tips for Burns and fires

- Keep hot drinks away from and out of reach of children.
- Have the hot water delivered to your bathroom at maximum of 50°C. But remember that you still need to mix cold water with the hot water coming out of your taps to get the right bath temperature for babies and children.
- Get a licensed electrician to install safety switches, which cut power off quickly to avoid electrocution.
- Get a licensed electrician to do any repairs.
- Replace electrical appliances and cords if they are worn.
- Use power point covers.
- Unplug tools whenever you take a break.
- Install smoke alarms in sleeping places.
- Test your smoke alarms every month and replace batteries each year.
- Replace the smoke alarms themselves every 10 years.
- Keep all fires and heaters well-guarded, especially open fires.
- Keep portable heaters and candles away from furniture and curtains.<sup>9,10</sup>

#### Safety Tips for Poisoning

- Removing potential poisons
- Storing chemicals and medicines up high in a locked cupboard or cabinet
- Putting a child-safety latch on the doors of cupboards where you keep household poisons.
- Always store chemicals in their original containers with appropriate labels.<sup>9,10</sup>

#### Safety Tips for Strangulation & Suffocation

- Keep stuffed toys, cushions and piles of clothing out of cots and prams.
- Wrap blinds cords in cleats attached to the wall at least 1.6 m above the floor.
- Tie knots in plastic bags, and keep them away from children.
- Choose toys appropriate to the age of children. Avoid toys with detachable small parts.
- Ensure small objects are kept out of reach of children.
- Pull cords on curtains and blinds should be kept short and out of reach of children.
- Strings and plastic bags should be kept out of reach of children.
- Foldable furniture should be properly placed and locked. Instruct children not to play with them.
- Instruct children not to play while eating.
- Never let children use milk bottle by themselves without adult's supervision.
- Never use pillow for baby under one year of age. Do not use large and heavy blanket. Never let the blanket cover the face of

children during sleep.

- Avoid sleeping with baby on the same bed.
- Never leave children alone in a bath tub or basin filled with water.
- Bucket filled with water must be covered and keep children away from it.
- Keep stuffed toys, cushions and piles of clothing out of cots and prams.
- Wrap blinds cords in cleats attached to the wall at least 1.6 m above the floor.<sup>9,10</sup>

#### Safety Tips for Drowning

- 100% supervision whenever the child is around water – pools, ponds, dams, rivers, creeks, baths and buckets with water.<sup>9</sup>

#### CONCLUSION

Children are active and innocent. They are curious to know everything and keep exploring their surroundings. It is the primary duty of the parent to provide them with safe home. There have been many studies showing the prevalence of home accidents due to lack of awareness among parents and care takers. However, the literature lacks in interventional studies on home safety. The literature reflects on knowledge deficit of parents and carers. Simple safety measure can prevent the domestic accidents resulting in disability and deaths of children. The least damage is interruption in schooling particularly in developing countries. The disability added with the lack of education due to childhood accidents results in national loss at large. Hence home safety should be treated as priority need by all.

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