








Update on domestic accidents in childhood: integrative review

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ABSTRACT

Objectives: to synthesize the knowledge produced on domestic accidents in childhood. **Methods:** an integrative literature review was conducted in November 2024, using the Latin American and Caribbean Health Sciences Literature (LILACS) database and the Scientific Electronic Library Online (SciELO) and PubMed portals. The descriptors used in LILACS were: "Criança" AND "Prevenção de Acidentes" OR "acidentes domésticos", in SciELO, "criança" AND "prevenção de acidentes", and in PubMed, the MeSH terms: "home accident" AND "children". The time frame was 2017 to 2023. **Results:** of the 122 articles identified in the search, 24 were included in the analysis. The studies focused on the predominant types of accidents, the sex and age group affected, the types of injuries resulting from the accidents, their causes, and risk factors. **Conclusion:** burns and falls are the main domestic accidents during early childhood, with a predominance among the male sex. Low maternal education is a risk factor for falls, burns, cuts, and traumatic brain injury.

Descriptors: Maternal and Child Health; Child; Accidents, Home; Home Environment.

INTRODUCTION

The World Health Organization defines an accident as a fortuitous, preventable, unintentional, generally harmful event, independent of human will, caused by an external force and with the potential for physical and/or emotional harm⁽¹⁾. They are also known as unintentional injuries, and given their frequency, magnitude, and severity in childhood, are considered a global public health problem⁽²⁾ that can lead to death and disability⁽³⁾.

Domestic accidents are the leading cause of death in children, and most of them occur at home⁽⁴⁻⁶⁾. They are directly related to behavior and the social environment, and closely linked to educational, social, and cultural conditions and lifestyle habits, which, in turn, are associated with the specific age and stage of development of children, their curiosity and desire to learn⁽⁷⁾.

Falls, burns, suffocation, drowning, and accidental poisoning in the home environment are among the leading causes of child death in Brazil, especially in the age group of 0-14 years⁽⁸⁾. Data from DataSUS for 2020 and 2021 revealed that 1,616 child deaths resulting from accidents occurred at home⁽⁹⁾.

Various risk behaviors can be the cause of unintentional injuries resulting from domestic accidents, including weak supervision by parents or caregivers and environmental hazards⁽⁹⁾. These accidental injuries place a strain on healthcare resources and require preventive measures to reduce child morbidity and mortality⁽⁹⁾ significantly.

According to the World Health Organization⁽¹⁾, approximately 830,000 children living in low- and middle-income countries die annually from preventable accidents. Drowning, assaults, falls, and asphyxiation are among the leading causes of death⁽¹⁾. Domestic accidents are the leading cause of child death in Brazil, leading to the hospitalization of approximately 112,000 children in critical condition annually⁽¹⁰⁾.

The high mortality and hospitalization rates resulting from domestic accidents

highlight the importance of comprehensive healthcare for children and the need to expand knowledge about this phenomenon⁽¹¹⁾. Discussing and sharing information on this topic through health education contributes to its prevention⁽¹²⁾.

Constantly updating knowledge about childhood domestic accidents is crucial for producing information that supports the development of safety protocols and informed actions by healthcare professionals, aiming to prevent childhood domestic accidents and identify gaps in available knowledge to guide future studies. Based on the above, this study aims to synthesize the knowledge produced on childhood domestic accidents.

METHODS

This is an integrative literature review including the following six steps: identification of the topic and development of the research question; selection of inclusion and exclusion criteria; selection of databases and studies; evaluation of the selected studies; description of the results; and presentation of the knowledge obtained⁽¹³⁾.

The PICO strategy was used to formulate the research question, where P (Population): “children”; I (Interest): “domestic accidents”; Co (Context): “home”. Thus, the research question was: How can accidents involving children in the home context be characterized?

The search was conducted in November 2024 across the Latin American and Caribbean Health Sciences Literature (LILACS), Scientific Electronic Library Online (SciELO), and PubMed. The descriptors and terms were defined using the Health Sciences Descriptors (DeCS) for the LILACS and SciELO databases, and the Medical Subject Headings (MeSH) for the PubMed search engine.

In the LILACS search strategy, the descriptors were combined using the Boolean operators: “Criança” AND “Prevenção de Acidentes” OR “acidentes domésticos”. In the SCIELO portal, the strategy was: “criança” AND “prevenção de acidentes”. In PubMed, the combination was: “Home Accident” AND “Children” and, additionally, the ‘species’ item in the filter was refined, selecting ‘humans’.

Articles published between 2017 and 2023, in full, with free access, in Portuguese, English, or Spanish, addressing domestic accidents in childhood, were included. The timeframe is justified by the Early Childhood Legal Framework enacted in 2016. Among its provisions, the importance of intersectoral actions aimed at promoting the health, safety, and well-being of children, including accident prevention, is noteworthy⁽¹⁴⁾. As the Legal Framework was approved in 2016, the search began the following year, given the publication of many studies that year. Reviewing articles, theses, dissertations, ministerial manuals, or duplicate texts in databases, unavailable electronically, and those that did not meet the proposed objective were excluded.

Article selection was conducted independently in pairs, beginning with a reading of titles and abstracts to exclude duplicate articles and those that did not meet the inclusion criteria. Those selected were analyzed in full. Data from the included articles were extracted using a standardized instrument and synthesized into a table with

information about the authors, objective, main results, and level of evidence. Furthermore, data were organized by age group of study participants, body part involved in the accident, risk factor, geographic location of occurrence, and outcome. The approximation of ideas and the association of content analyzed the studies.

The hierarchical classification of the level of evidence (LE) was carried out according to Melnyk and Fineout-Overholt, as follows: level 1 (strong) – systematic reviews or meta-analysis; level 2 (strong) – randomized clinical trials; level 3 (moderate) – non-randomized controlled clinical trials; level 4 (mild) – case-control and cohort studies; level 5 (moderate) – systematic reviews of descriptive studies and qualitative studies; level 6 (weak) – evidence from a single descriptive or qualitative study; and level 7 (weak) – reports of expert opinions⁽¹⁵⁾.

RESULTS

The corpus of analysis included 24 articles (Figure 1). The Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) criteria were adopted for summarizing the searches and selecting the articles⁽¹⁶⁾.

The synthesis of data extracted from the 24 selected articles⁽¹⁷⁻⁴⁰⁾ (Table 1) shows that almost all have a quantitative approach. During the period analyzed, most studies were conducted in Brazil (f = 12), followed by Cuba (f = 3), Venezuela (f = 1), Mongolia (f = 1), India (f = 1), Ghana (f = 1), Turkey (f = 1), Italy (f = 1), Argentina (f = 1), one multicenter study including 17 countries, and one involving the North African region. Most articles were published between 2017 and 2019 (f = 16). Level of evidence (6) (weak) predominates among the knowledge produced.

As observed in Table 1, studies addressing the epidemiology of childhood accidents^(18-20,25,32,37,38) highlight falls and burns as the most frequent types.

In studies that analyzed specific accidents, the predominant focus of interest was burns^(22,27,30,31,33,34,39). Other types of accidents studied included tracheobronchial aspiration⁽¹⁷⁾, falls^(20,21), poisoning⁽²⁴⁾, ocular trauma⁽²⁶⁾, foreign body insertion into the nose⁽²⁸⁾ and trauma from television tip-overs⁽³⁵⁾.

In many studies, the male sex was more affected by childhood accidents^(18-20,22,24-28,30,33,38). The time of day when accidents occur was identified in only two studies^(18,25), in which they happened in the afternoon.

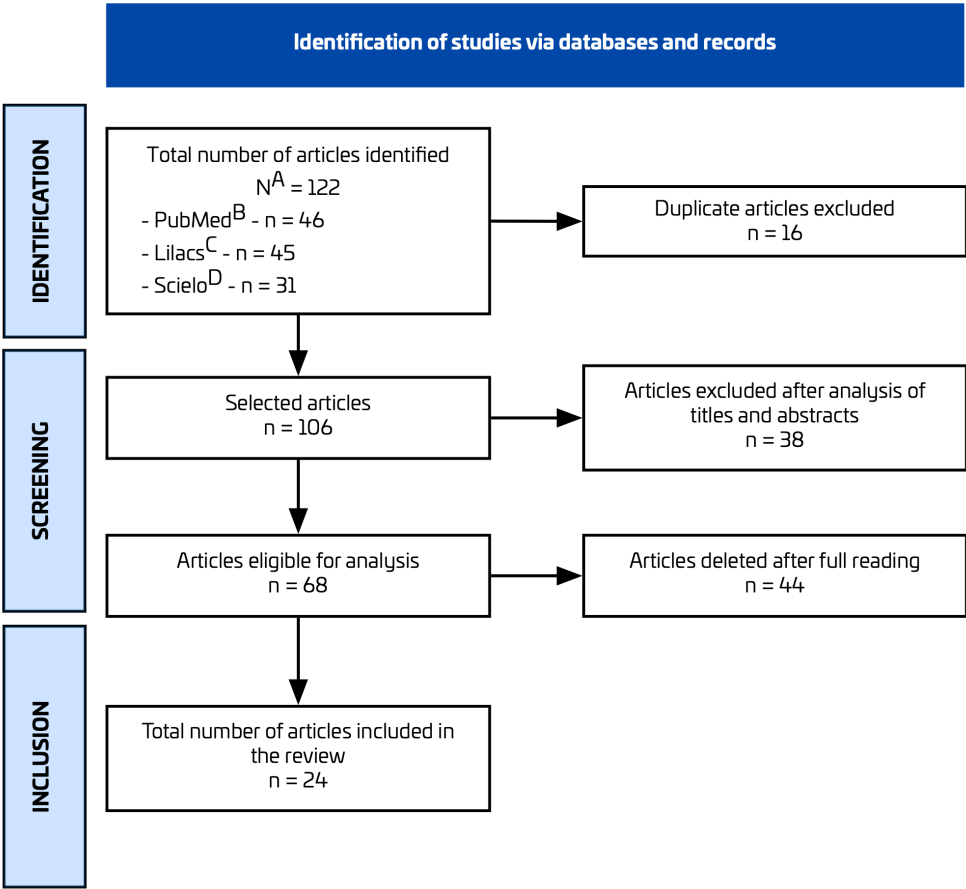
In addition to accidents as the outcome studied, the studies addressed risk perception⁽²³⁾, determining factors⁽²⁹⁾, risk⁽³⁰⁾, the prevalence of unsafe medication storage⁽³⁶⁾ and caregiver knowledge⁽⁴⁰⁾.

The aspects related to each type of injury resulting from home accidents and the characterization of the age group involved, the body part affected, causes, and risk factors are described in Table 2.

DISCUSSION

The findings of this review contributed to the synthesis of know-

Figure 1 - Flowchart describing the selection of articles according to the recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA Group)⁽¹⁶⁾, 2024



Note: N^A – number; PubMed^B – search engine of the United States National Library of Medicine; LILACS^C – Latin American and Caribbean Health Sciences Literature; SciELO^D – Scientific Electronic Library Online.

Table 1 - Summary of articles that constituted the corpus of analysis (2017–2023)

Continue...

Authors and country of publication	Objective	Main results	LE
Mariño et al. ⁽¹⁷⁾ Cuba	To understand the clinical and epidemiological behavior of intrabronchial aspiration of foreign bodies in children under 5 years of age at Hospital Hermanos Cordové and to develop a procedure that improves the quality of care for this group of patients.	n = 10 Age group studied: under 5 years of age. Type of accident: intrabronchial foreign body aspiration. Possible risk factors: male children under 3 years of age living in rural areas.	6
Gonçalves et al. ⁽¹⁸⁾ Brazil	To investigate the main causes and most common risk situations related to childhood accidents in our local context.	n = 936 Predominantly affected sex and age group: boys, 0-5 years old, followed by 6-10 years old. The most common types of accidents are falls and trauma, in all age groups. Most accidents occurred in the afternoon, at home, with children who had a history of previous accidents.	6
Filócomo et al. ⁽¹⁹⁾ Brazil	To analyze the occurrence of accidents treated in the pediatric emergency room of a public hospital.	n = 2,421 Predominantly affected sex and age group: male, 10-13 years old. Most common types of accidents: falls. Most commonly affected body part: in children up to 1 year old, the head/neck. Outcome: discharge was the most common outcome, followed by observation, hospitalization, and one death.	6

Table 1 - Summary of articles that constituted the corpus of analysis (2017–2023)

Continue...

Authors and country of publication	Objective	Main results	LE
Barcelos et al. ⁽²⁰⁾ Brazil	To describe the incidence of falls, cuts, and burns up to 4 years of age, according to family economic status, maternal age and education, among children in the 2004 Pelotas (Brazil) birth cohort.	n = 4,231 Types of accidents: falls, followed by cuts and burns. Age group studied: 0–4 years. Most affected gender: boys suffered more falls and cuts than girls. Burns occurred equally frequently in both sexes. Associated factors: being an adolescent mother was associated with falls and cuts; having a low level of maternal education was associated with burns and cuts; and having a low socioeconomic status in the family was associated with falls and cuts.	4
Brito et al. ⁽²¹⁾ Brazil	To analyze the risk factors in the home environment for falls in children aged under 5 years.	Age group: 0–14 years Type of domestic accident studied: falls Risk factors for falls in children under 5 years of age were: high hammocks, stairs or steps without handrails, and exits and passageways obstructed by toys, furniture, boxes, or other items.	6
Pereima et al. ⁽²²⁾ Brazil	To analyze the rates of hospitalizations due to burns in pediatric patients in the Brazilian macro-regions and states of the South Region by sex, from 2008 to 2015.	n = 32,426 (2008-2015; Brazil) Predominantly affected sex: male Types of domestic accidents studied: burns.	6
Caricchio et al. ⁽²³⁾ Brazil	To understand how caregivers of children under 10 perceive the risks of accidents in the home environment.	Respondents believe that falls are the most common non-fatal accident, and car accidents are the leading cause of child deaths in Brazil. They also stated that the most significant risks in the home are falls, followed by burns, but only a small percentage believed these risks are preventable.	6
Sales et al. ⁽²⁴⁾ Brazil	To identify the presence and actions of adults at the scene of childhood toxicological accidents and the first aid provided.	n = 1,012 Age group between 1 and 2 years Predominantly affected sex: male Most accidents occur at home with children accompanied by their parents or other adult guardians. Types of domestic accidents and causes: poisoning; the main agents were medications.	6
García and Ramos ⁽²⁵⁾ Venezuela	To determine the epidemiological characteristics of accidents in the homes of 112 patients aged between 2 and 13 years who received immediate medical care at the Decentralized Service of the Dr. Agustín Zubillaga Pediatric Hospital between December 2018 and January 2019.	n = 112 Predominantly affected sex and age group: male, preschoolers aged 2–6 years from urban areas. Accidents occurred predominantly on Friday afternoons and in areas outside the homes. The most common types of accidents were falls, followed by burns and poisoning.	6
Borrero and Allen ⁽²⁶⁾ Cuba	To determine the results of using the ocular trauma score as a visual prognostic tool in trauma.	n = 438 Predominantly affected sex and age group: males, ages 5 to 9 years. Types of accidents studied and causes: ocular trauma, classified as a recreational accident at home; sticks and stones were the most common causal instruments.	6
Moraes et al. ⁽²⁷⁾ Brazil	To understand the causes of burns in children aged 0 to 5 years treated at a public hospital in Maceió, Alagoas.	n = 92 Predominantly affected sex and age group: males, ages 0–1 year, followed by 2–3 years. Types of accidents, characteristics, and causes: second-degree burns, with the chest as the most affected body region. The main causative agents were scalding coffee, followed by hot water. The most significant risk factor was adult carelessness.	6
Ruiz et al. ⁽²⁸⁾ Cuba	To characterize the 341 children and adolescents treated in the emergency room for aerodigestive foreign bodies.	n = 341 Predominantly affected sex and age group: male, under 5 years old from urban areas. Types of accidents: insertion of organic foreign bodies and nasal obstruction.	6

Table 1 - Summary of articles that constituted the corpus of analysis (2017–2023)

Continue...

Authors and country of publication	Objective	Main results	LE
Silva et al. ⁽²⁹⁾ Brazil	To analyze the determining factors for the occurrence of domestic accidents in early childhood.	n = 21 Predominant age group: preschoolers. Determining factors: most participants did not consider their homes safe for children and reported not having received guidance on preventing accidents at home.	6
Emond et al. ⁽³⁰⁾ Brazil	To investigate child developmental and behavioral characteristics and the risk of burns and scalds.	n = 12,966 Predominantly affected sex and age group: male sex in children under 2 years of age, and female sex in those aged between 5 and 11 years. Type of trauma: burns.	4
Gerelmaa et al. ⁽³¹⁾ Mongolia	To describe the circumstances surrounding the occurrence of burns among children in Mongolia and the products involved.	n = 906 children Age group primarily affected: 0–3 years. Types of accidents and circumstances: Burns occurring in the kitchen. Causal factors involved: exposure to overflowing hot liquids from pots and kettles.	6
Bhuvaneswari et al. ⁽³²⁾ India	To study the magnitude and pattern of home injuries in children aged 0 to 14 years and to assess the environmental risk associated with home injuries.	n = 400 Predominantly affected age group: 1–3 years, followed by 5–10 years. The number of injuries among girls was significantly higher than that among boys. The most common types of home accidents were falls, followed by sharp force injuries and burns. Environmental risk factors included electrical outlets, unsafe stairs, and kitchens with access to sharp objects, as well as active fires and hazardous furniture and objects.	6
Puthumana et al. ⁽³³⁾ 2021 Multicenter (Argentina, Chile, Estonia, Russia, Saudi Arabia, Iran, China, Mexico, Peru, South Africa, India, Lao People's Democratic Republic, Nigeria, Pakistan, Ethiopia, Nepal, United Republic of Tanzania)	To evaluate the characteristics of cooking-related burns in children reported to the World Health Organization's Global Burn Registry.	n = 2,957 Predominantly affected sex and age group: male, 0–2 years old. Type of accident studied: burns Causal factors involved: accidental contact and liquefied petroleum. Explosions or fires in the kitchen, as well as cooking with wood, kerosene or natural gas, were associated with a greater extent of body surface area affected. Mortality was associated with explosions and fires in the kitchen.	7
Mehta et al. ⁽³⁴⁾ Ghana	To determine the incidence of children's burn injuries in rural Ghana and describe modifiable household risk factors to inform prevention initiatives.	n = 357 Type of household accident: burns The weighted annual incidence of childhood burns was 63 per 1,000 child-years; the mean reported age was 4.4 years. The most common etiology was flaming burns. Advanced age and households with an older sibling ≥12 years appeared to be associated with lower odds of burns.	2
Eren et al. ⁽³⁵⁾ Turkey	To identify, report, and raise awareness of the risk factors for television tip-overs.	n = 86 Type of home accident: trauma from tip-over furniture and utensils. Risk factors: low maternal education. Televisions were not mounted to a countertop or wall in any of the homes. Outcomes: 12 patients had intracranial hemorrhage and 19 skull fractures, of which five underwent neurosurgical intervention.	6
Santos et al. ⁽³⁶⁾ Brazil	To measure the prevalence of unsafe medication storage in households with children up to 4 years old.	n = 3,799 Age group studied: 0–4 years old Type of household accident: poisoning Storing medications in unlocked areas (kitchen and bedroom) and within reach of children was reported by 80.9% of mothers. The overall prevalence of unsafe medication storage was 21.4%.	4

Table 1 - Summary of articles that constituted the corpus of analysis (2017–2023)

Conclusion.

Authors and country of publication	Objective	Main results	LE
Piffer et al. ⁽³⁷⁾ Italy	To describe admissions due to domestic accidents in the province of Trento between 2009 and 2018 and analyze trends over time, case characteristics, severity levels, event dynamics, and types of injuries sustained.	The most common types of domestic accidents are injuries, burns, and trauma. Predominantly affected age group: 0-14 years.	6
Fernández et al. ⁽³⁸⁾ Argentina	To characterize unintentional domestic injuries among children aged 5-10 years in two neighborhoods of Corrientes, the capital, in the first half of 2022.	n = 185 surveys Most common types of accidents: abrasions, burns, and contusions. Predominant age group: 5 years/female sex.	6
Silvestrim et al. ⁽³⁹⁾ North Africa	To analyze the clinical and epidemiological profile of burns in children under 12 years of age.	n = 219 Most common types of accidents: third-degree burns. Predominant age group: 0–3 years/male sex.	6
Santos et al. ⁽⁴⁰⁾ Brazil	To analyze caregivers' knowledge about preventing domestic accidents in early childhood and its association with the level of education.	n = 256 caregivers Knowledge (100%) about preventing accidents involving sharp toys, firearms, and product poisoning stood out in individual items. There was no statistically significant association between educational level and knowledge.	6

Note: LE = Level of Evidence.

Table 2 - Characterization of the types of home accidents in children according to the age group affected, body part affected, causes, and risk factors

Continue....

Type of injury studied	Specific variables
Burns ^(20,22,25,27,30-34,37-39)	<p>Age group: Brazil – 0 to 3 years^(27,39); 0 to 4 years⁽²⁰⁾; 0 to 14 years⁽²²⁾. Other countries: 0 to 2 years^(20,33); 0 to 3 years⁽³¹⁾; 1 to 3 years, followed by 5–10 years⁽³²⁾; under 5 years⁽³⁸⁾; mean age of 4.4 years⁽³⁴⁾; 2 to 6 years⁽²⁵⁾; 0 to 14 years⁽³⁷⁾</p> <p>Body part affected: chest⁽²⁷⁾.</p> <p>Causes: coffee burns, followed by hot water burns⁽²⁷⁾, spills from hot liquids, electric cookers, electric kettles⁽³¹⁾, cooking gas (liquefied petroleum), cooking with wood, kerosene or natural gas, accidental contact, explosions and fires in cooking areas⁽³³⁾, stove height < 1m⁽³⁴⁾.</p> <p>Risk factors: lack of attention in adults⁽²⁷⁾, coordination difficulties, hyperactivity, and emotional regulation problems⁽²⁹⁾ and a mother with a low educational level⁽²⁰⁾.</p>
Trauma resulting from falls ^(18-21,25,32,37,38)	<p>Age group: Over 2 years⁽²⁰⁾. Predominantly between 1-3 years⁽³²⁾. Ages 0-5 years^(18,21,25) and 10-13 years⁽¹⁹⁾.</p> <p>Body part affected: head and neck in children aged 0-4 years, and upper and lower limbs in children aged five and older⁽¹⁹⁾.</p> <p>Causes: high hammocks, stairs, steps without handrails, exits and passages obstructed by toys, furniture, boxes, and other obstructive items⁽²¹⁾.</p> <p>Risk factors: adolescent mother and/or mother with low education and family with low socioeconomic status⁽²⁰⁾.</p>
Cuts ^(20,32,37)	<p>Age group: 0 to 4 years^(20,37); 1–3 years; 5-10 years⁽³²⁾.</p> <p>Body part affected: not mentioned⁽²⁰⁾.</p> <p>Causes: not mentioned⁽²⁰⁾.</p> <p>Risk factor: family with low socioeconomic status and adolescent mother⁽²⁰⁾.</p>
Poisoning/intoxication ^(24,25,36)	<p>Age group: 1 to 2 years⁽²⁴⁾; preschoolers aged 2 to 6 years⁽²⁵⁾.</p> <p>Body part affected: digestive tract^(24,25).</p> <p>Causes: not found^(24,25).</p> <p>Risk factor: storing medications in inappropriate locations, easily accessible to children, such as cabinets and drawers without keys⁽³⁶⁾.</p>
Tracheobronchial aspiration of a foreign body/foreign body insertion into the nose ^(17,28)	<p>Age group: < 5 years^(17,28).</p> <p>Body part affected: nasal cavity and digestive tract^(17,28).</p> <p>Causes: insertion of organic foreign bodies and obstruction of the nostril with buttons, seeds, metal fragments, food, and others^(17,28).</p> <p>Risk factors: <3 years of age, male sex, living in a rural area⁽¹⁷⁾, and < 5 years, male sex, living in an urban area⁽²⁸⁾.</p>

Table 2 - Characterization of the types of home accidents in children according to the age group affected, body part affected, causes, and risk factors

		Conclusion.
Type of injury studied	Specific variables	
Ocular traumas ⁽²⁶⁾	Age group: 5 to 9 years ⁽²⁶⁾ .	
	Body part affected: eyes ⁽²⁶⁾ .	
	Causes: sticks and stones while playing ⁽²⁶⁾ .	
	Risk factor: not mentioned ⁽²⁶⁾ .	
Traumatic brain injury from a television tip over ⁽³⁵⁾	Age group: 2 to 4 years ⁽³⁵⁾	
	Body part affected: head ⁽³⁵⁾	
	Causes: television tip-overs ⁽³⁵⁾	
	Risk factor: low maternal education level ⁽³⁵⁾	

ledge on domestic accidents in childhood. It was possible to identify the prevalent types, the epidemiology of burns, falls, and other specific types of accidents in terms of age group, sex, risk factors, causative agents, and outcomes. These results can inform the development of public policies and the planning and implementation of health professionals' actions, aiming to prevent this phenomenon.

The most affected age group varies according to the type of accident, which will be discussed below. According to the studies included in this review, the male sex is the most affected. This result is like that found in another integrative literature review of 31 articles published between 1983 and 2017⁽⁴¹⁾ in which the male sex was identified as a primary social determinant of domestic accidents. The reasons for this phenomenon may involve cultural factors, which ultimately determine different activity patterns for boys and girls during childhood^(42,43), as well as the shorter time spent under caregiver supervision for boys⁽⁴⁴⁾.

Besides being among the most prevalent childhood accidents^(18,19,20,25,32,37,38), burns are also the most studied^(22,27,31,33,34,39).

The age group predominantly affected by burns differs depending on the geographic location of the study. A multicenter study including reports from 17 countries found a predominance of this type of domestic accident in children aged ≤ 2 years⁽³³⁾. Considering the other studies conducted in different countries included in this review, such as Venezuela⁽²⁵⁾, England⁽³⁰⁾, Mongolia⁽³¹⁾, India⁽³²⁾, Italy⁽³⁷⁾ and Argentina⁽³⁸⁾, most results indicate ages between 0 and 6 years, which corresponds to early childhood.

Studies conducted in the South^(20,36) and Northeast⁽²⁷⁾ Regions also reaffirm the prevalence of this condition in early childhood in Brazil.

However, the age group between 7 and 14 years old was identified as one of the most affected both in Italy⁽³⁷⁾ and the South of Brazil⁽²²⁾. This finding further increases the demand for public policies for different population groups through distinct strategies, sometimes targeting family members responsible for childcare, and sometimes targeting individuals in preadolescence and adolescence.

The causative agents of burns were scalding from coffee, hot water, and exposure to other hot, overflowing liquids⁽²⁷⁾. Electric pots and kettles were the most commonly involved appliances⁽³¹⁾. The risk factors identified for their occurrence were motor coordination defi-

cits, hyperactivity, emotional regulation problems in children⁽³⁰⁾ and being born to a mother with a low level of education⁽²⁰⁾.

In addition to burns caused by scalds and spills from hot liquids, burns from open flames were reported in a study conducted in Ghana that investigated 357 households. In this country, open fires are commonly used for cooking with fuel such as biomass/organic matter. Kitchens are typically located inside the home, and stoves are lower, making it easier for children under 5 years of age to access the fire⁽³⁴⁾. Burns resulting from explosions or fires in the kitchen and from the use of firewood, kerosene or natural gas are associated with a larger affected body surface area, and explosions and fires in kitchens are the leading causes of death⁽³³⁾.

Regarding hospitalization outcomes due to burns, the South region of Brazil stands out from the rest⁽²²⁾. This fact is possibly related to the region's cold climate, which encourages the use of heaters and hot beverages.

Another factor that contributes to the occurrence of domestic accidents is the lack of adequate supervision by families, due to overconfidence that nothing will happen. This carelessness can culminate in fatal consequences for children⁽¹¹⁾. This behavior among adults is identified as the leading risk factor for second-degree burns in children⁽²⁷⁾. Therefore, direct and attentive supervision of children is of paramount importance to minimize the occurrence of domestic accidents⁽³⁸⁾.

Note that treating burns in children is challenging, as several complications can occur throughout the recovery process⁽⁴⁵⁾.

Falls are another type of domestic accident with a higher prevalence. The age range of children who suffer falls varies depending on the geographic location, even within the same country. In Brazil, a study evaluating 936 accidents identified a higher prevalence of falls and other traumas in children aged 0-5 years⁽¹⁷⁾. In contrast, another study found that the 10-13 year age group was more affected⁽⁴⁹⁾, while in other countries, such as Italy, there is a predominance in the 0-14 year age group⁽³⁷⁾. Thus, it is evident that domestic accidents affect children in all age groups, with a predominance of different groups depending on the type of accident and the country of origin of the study⁽¹¹⁾.

The body part affected by trauma resulting from falls varies according to age group. In children aged 0-4 years, the head/neck is

primarily affected, and in children aged five and older, the upper and lower limbs are mostly affected⁽¹⁹⁾.

This type of domestic accident (fall) requires additional examinations and evaluations during care (X-rays, specialist evaluation, and orthopedic immobilization). It involves outcomes ranging from hospital discharge to hospitalization and death⁽¹⁹⁾.

The higher incidence of falls in the afternoon, reported in two studies^(18,25), was not discussed and remains a topic for future research. Although incipient, at this point, the possibility that caregivers are more tired at this time and consequently more inattentive, or that the child is not in school during this period, dedicating more time to playing at home, can be considered.

Regarding home accidents caused by medication poisoning, there is a predominance among male children aged 1–2 years in a setting where their parents or another responsible adult are present⁽²⁴⁾. Another study also found a predominance in the 2–6-year age group⁽²⁵⁾. Storing medications in inappropriate locations, i.e., easily accessible to children, is among the factors contributing to the occurrence of these accidents.

Children's agility and mobility contribute to their access to medications, which are often stored in cabinets and drawers without locks in households⁽³⁶⁾. Parents should be instructed on the correct way to store medications in the home environment in order to reduce the number of exogenous poisonings in this population⁽⁴⁶⁾.

For safety reasons, in addition to medications, sharp objects should be stored in an appropriate place with limited access to children, as cuts are also a significant cause of injury in home accidents^(20,32,37). In addition to the concern with educational actions by health professionals on safety measures to prevent this type of accident aimed at parents or caregivers, families with low socioeconomic status and adolescent mothers need special attention, as evidenced in one of the studies included in this review⁽²⁰⁾. In these cases, as the household may not have places usually suitable for storing sharps safely, a specific strategy has to be developed for each case.

Ocular trauma was another type of injury resulting from domestic accidents included in this review. Investigated as a specific outcome in one study, it occurs predominantly in children aged 5–9 years, primarily males. It is caused by the use of sticks and stones, resulting in temporary changes in visual acuity⁽²⁶⁾. These findings are consistent with those of a study conducted in Fortaleza, Brazil, in which 50% of children treated for ocular trauma were between 6 and 10 years old⁽⁴⁷⁾. Playing can become more dangerous in this age group, as children handle potentially harmful objects, and there is less dependence on caregiver supervision and more freedom to explore other forms of entertainment.

In turn, traumatic brain injury from tipping over televisions or furniture such as cabinets or dressers is more common in children aged 2–4 years⁽³⁵⁾. This may be explained by their developmental stage, when they can already walk and reach for objects of interest.

The prevalence of domestic trauma reflects the vulnerability of children in these environments, especially at an early age, where continuous supervision and home safety play essential roles in ac-

cident prevention. This review highlighted that while some injuries cause only temporary impairments, others can result in permanent consequences.

Finally, foreign body aspiration resulting from the insertion of organic objects into the nostril was identified as a prevalent event in children under 3 years of age, particularly in males, and those living in rural areas⁽¹⁷⁾. However, another study expanded the risk age range to 5 years, maintaining the male predominance but observing a higher incidence in children living in urban areas⁽²⁸⁾. These findings demonstrate that foreign body aspiration is a typical pediatric emergency, particularly among young children, and requires the adoption of preventive measures and appropriate supervision practices by caregivers to mitigate its occurrence.

The lack of knowledge among parents and caregivers about foreign body aspiration in children is a relevant factor contributing to the incidence of these accidents. A study⁽⁴⁸⁾ found an average lack of knowledge of 33.8% regarding preventive measures and recognition symptoms' aspiration.

The combination of risk factors, such as the child's young age, the mother's young age, exposure in the home environment and lack of knowledge, requires an integrated approach involving families, health professionals and educators, aiming to reduce children's exposure to these accidents and improve outcomes through timely interventions.

When monitoring children's growth and development in Primary Health Care, special attention should be given to educational activities aimed at young mothers and low-income families. Young mothers may have less experience recognizing risk factors for domestic accidents involving children. In low-income families, mothers may lack support to carry out household and childcare tasks, and the environment may be more restrictive, resulting in greater exposure of children to risky situations as they progressively explore their surroundings during psychomotor development.

In this review, the lack of adult supervision was identified as one of the factors associated with childhood accidents, corroborating the findings of a previous study⁽⁴¹⁾, in which the cause attributed to this phenomenon was possible stress or overload of demands on the caregiver or a lack of experience in perceiving risks. Currently, another phenomenon can exacerbate this lack of supervision: smartphone addiction, which affects a significant portion of adults^(49,50). This cannot be ignored by healthcare professionals, especially nurses, in the process of childcare monitoring.

Regarding the limitations of this review, the limited number of data sources used in the search (LILACS, SciELO, and PubMed), and the restriction to free-access works in Portuguese, English, and Spanish, may have impacted the number of articles selected.

Despite these weaknesses, the results cohesively and consistently point to the urgent need to implement public policies aimed at preventing domestic accidents and support programs for victims and their families, to minimize the negative impacts, both psychological and physical, caused by accidents.

It is the responsibility of healthcare professionals in various care settings to promote health education initiatives for children in the

age group most affected by domestic accidents. These initiatives should target parents, family members, and caregivers, focusing on preventing domestic accidents and maintaining a safe environment, while considering the unique living conditions of the different population groups served.

CONCLUSION

Most domestic accidents involve burns and falls and occur predominantly among male children aged 0–6 years. Other accidents to consider include ocular trauma, traumatic brain injury, cuts, poisoning/intoxication, and foreign body aspiration.

Risk factors for domestic accidents in childhood include demographic and social factors related to the child, the mother, and the family caregiver. Low maternal education, lack of adult supervision, coordination difficulties, hyperactivity, and emotional regulation issues in children, as well as environmental and cultural factors, are noteworthy.

The synthesis of knowledge on domestic accidents involving children, as revealed in this literature review, identified gaps: a scarcity of qualitative studies involving parents and children, and a lack of studies on the impact of implementing health education interventions and actions, as well as other types of interventions to identify risk situations and prevent these accidents.

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