



This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0). To view a copy of the license, visit <https://creativecommons.org/licenses/by-nc/4.0/>

A multidimensional approach to home accidents in children aged 0-6: a community-based study

Home accidents in children

Feza Demir¹ Ramazan Azim Okay¹ Ayşegül Erdoğan¹

¹Department of Public Health, Kahramanmaraş Provincial Health Directorate, Kahramanmaraş, Türkiye.

²Department of Public Health, Faculty of Medicine, University of Health Sciences, Adana, Türkiye.

³Department of Public Health, Faculty of Medicine, Kahramanmaraş Sutcu Imam University, Kahramanmaraş, Türkiye.

Abstract

Aim: Home accidents are a significant cause of injury and death among children aged 0–6 due to their limited motor and cognitive abilities. This study aimed to investigate the prevalence, characteristics, and associated risk factors of home accidents in this age group.

Methods: A cross-sectional study was conducted between March and May 2024, including 652 mothers of 1,003 children aged 0–6 attending Family Health Centers in a southeastern province (blinded country). Data were collected through face-to-face questionnaires covering sociodemographic information, maternal perceptions, and accident-related variables. Descriptive statistics, chi-square tests, and logistic regression analyses were performed ($P < .05$).

Results: The annual and monthly rates of home accidents were 21.9% and 12.8%, respectively. Falls were the most frequent accident type (59.8%), followed by burns (14.8%). Risk factors included being male, age 2–3, and being cared for by someone other than the mother. Logistic regression revealed significant associations between accident incidence and maternal age (<25 years), employment status, number of rooms in the home (≥ 5), and protective or fatalistic maternal attitudes.

Conclusion: Identifying maternal, environmental, and perceptual risk factors can inform effective prevention strategies and parental education programs. Findings highlight the importance of culturally appropriate safety interventions to reduce accident-related injuries in early childhood.

Keywords

children aged 0-6, home accident, perception of accident, risk factors

DOI: 10.4328/ACAM.22893

Ann Clin Anal Med 2026;17(9):926-929

Received: 22.12.2025

Accepted: 15.04.2026

Published Online: 15.04.2026

Printed: 01.09.2026

Corresponding Author: Feza Demir, Department of Public Health, Kahramanmaraş Provincial Health Directorate, Kahramanmaraş, Türkiye.

E-mail: fezakaragedik@gmail.com P.: +90 506 683 61 43

Corresponding Author ORCID: <https://orcid.org/0000-0002-6377-1545>

Other Authors ORCID: Ramazan Azim Okay, <https://orcid.org/0000-0001-8767-2771> • Ayşegül Erdoğan, <https://orcid.org/0000-0002-0548-5911>

Introduction

Accidents are defined as sudden events that occur outside of human control and lead to physical or psychological harm. Depending on their location and cause, they can be classified as traffic, occupational, industrial, home, school, or sports accidents.¹ Home accidents are defined as unexpected events that occur within the home or in connected areas such as the yard, garage, or garden.² Although data on records kept in our country are limited, studies indicate that 18-25% of all accidents occur at home. Children, especially those in the 0-6 age group, are particularly vulnerable to home accidents as they have not yet fully developed their motor skills and cannot foresee dangers. Due to their frequent occurrence and potential to cause disability or death, these accidents are considered a serious and preventable public health issue.³ These accidents typically involve falls, burns, drownings, and poisonings.⁴ In particular, the perceptions and behaviors of mothers, who are primarily responsible for children's care, are important for preventing home accidents.⁵

This study aims to identify home accidents and related factors among children aged 0-6 years and to evaluate mothers' perceptions of these accidents. Additionally, our study is expected to increase mothers' awareness of home accidents and contribute to the literature.

Materials and Methods

This cross-sectional study was conducted in the central districts of a southeastern province between March and May 2024. The study population consisted of children aged 0-6 years, and a representative sample was selected from the central districts of the province. According to TÜİK 2023 data, the total number of children in the 0-6 age group in the central districts of a southeastern province is 401,313.

In calculating the sample size, recent studies in (blinded country) have been considered, and the prevalence of home accidents among children aged 0-6 years is assumed to be 30%. The sample size was calculated using Epi Info version 7.2.5.0 with a 95% confidence interval, a 5% margin of error, and a design effect of 2. Accordingly, the minimum sample size was calculated as 644 mothers of children aged 0-6 years. A total of 80 family health centers (FHCs) are located in the central districts of the province; considering the socioeconomic differences between districts, 11 FHCs were randomly selected. Data collection was conducted in proportion to the total number of doctors in the selected FHCs to achieve the target sample size.

The study included mothers who had at least one child in the 0-6 age group, were over 18 years old, and agreed to participate during the designated FHCs' working hours. The research's dependent variable is the occurrence of a home accident, and the independent variables are characteristics related to the family, home, mother, and child. Data collection tools were specifically developed for our study based on a literature review. Surveys were administered through face-to-face interviews with 670 mothers, each lasting approximately 25-30 minutes. Because some participants left the survey incomplete, data from 652 mothers were included in the analysis.

Ethical Approval

The study was approved by the Ethics Committee of Harran University (Date: 18.03.2023, Decision No: 24.09.27).

Statistical Analysis

Research data were analyzed using SPSS (version 27.0). Descriptive

statistical analyses used mean $\pm$ standard deviation (Mean $\pm$ SD), median, and minimum-maximum (min-max) values. The Chi-square test and post hoc Chi-square analysis were conducted for categorical variables. Factors that could affect the occurrence of home accidents were examined using Binary Logistic Regression Analysis (enter method). Variables with significance found in univariate analyses and a type-1 error level of less than 0.20 were included in the model. The Hosmer-Lemeshow test was used to check model fit. All analyses considered a statistical significance value of $P < .05$.

Reporting Guidelines

This study is reported in accordance with the STROBE guidelines.

Results

The 652 participating mothers had a total of 1.003 children aged 0-6 years. Of these children, 21.9% (220 individuals) had a home accident in the last year, and 12.8% (128 individuals) had one in the last month.

Supplementary Table 1 shows the incidence of home accidents in the last year and last month among children aged 0-6, categorized by their characteristics. Statistically significantly higher rates of accidents were observed in children aged 2-3 years compared to other age groups. Boys had a higher rate of home accidents than girls. There is a significant difference in the frequency of home accidents by caregiver during the day; according to the post hoc analysis, the frequency of home accidents is higher among children cared for by grandparents or in daycare than among those cared for by their parents.

Supplementary Table 2 includes 122 cases of the most recent home accidents within the last month. The most common type of home accident is falling (59.8%), followed by burns (14.8%). The body region most commonly affected was the head and neck region, accounting for 52.5% of injuries. In half of the accidents, the mother was present with the child, while 24.6% occurred when the children were alone. Approximately 46.7% of the incidents took place around noon, and 49.2% occurred in the living room used during the day.

In the study, the average age of participating mothers is 30.65 ± 6.23 , with a median age of 30 (min: 18, max: 49). Supplementary Table 3 displays the occurrence of home accidents among children aged 0-6 years in the last month, according to the family, home, and sociodemographic characteristics of the participants. Accordingly, the frequency of home accidents in children of working mothers is significantly higher than in children of non-working mothers.

In the study, the average number of children per mother is 2.8 ± 1.66 (min = 1, max = 11). No significant differences were found in the rates of home accidents across the mother's total number of children, knowledge of home accident prevention training, and awareness of emergency call numbers (Supplementary Table 1).

When examining the occurrence of home accidents among children by the number of rooms in the home, a statistically significant difference was found. The post hoc analysis revealed that the accident rate in homes with 1-2 rooms is significantly lower than in other homes, whereas the accident rate in homes with 5 or more rooms is significantly higher (Supplementary Table 1).

In Supplementary Table 3, a statistically significant difference was observed in the incidence of home accidents among children based on their mothers' perceptions and behaviors concerning protection and fatalism. According to the post hoc chi-square analysis, children of mothers who agree with the statement "Mothers should

always think there is too much danger around their children” have a significantly higher frequency of home accidents compared to those whose mothers agree with “Mothers worry unnecessarily about their children.” Regarding fatalism, the frequency of home accidents in children of mothers who agreed with “All children’s accidents are due to some negligence” was found to be lower than that of those who agreed with the other two statements.

Supplementary Table 2 presents the logistic regression analysis of variables that could affect the occurrence of home accidents among children aged 0-6 in the last month. According to the established model, the mother’s age group, employment status, number of rooms in the home, and the mother’s perceptions of protection and fatalism towards accidents have been identified as significant risk factors for home accidents in children aged 0-6.

For the mother’s age group, children of mothers under 25 years of age have a home accident risk 2.3 times that of children of mothers aged 30-34. The risk of home accidents for children of working mothers is 1.83 times that of non-working mothers. Regarding the number of rooms in the home, children living in homes with 5 or more rooms have a home accident risk 5.77 times that of those living in homes with 1-2 rooms.

For protection-oriented perceptions, children of mothers who agree with the statement “Mothers should always think there is too much danger around their children” have a home accident risk 1.6 times that of those who agree with “Mothers can fear their children getting hurt.” For fatalism, children of mothers who agree with “All children’s accidents are due to bad luck” have a home accident risk 2.2 times that of those who agree with “All children’s accidents are due to some negligence.”

Discussion

In the study, approximately 22% of children aged 0-6 years experienced a home accident in the last year, while the rate in the last month was 12.8%. Studies conducted in our country have found the frequency of home accidents among children aged 0-6 years to be between 14.1% and 57.3%.⁶⁻⁸ In their study, Erdem et al. investigated the occurrence of accidents in the last two months and found the frequency of home accidents to be 12.8%.⁹ The frequency of home accidents is closely related to the survey period. Additionally, these differences may stem from the environmental conditions in which the children live, as well as the family’s educational and socioeconomic status.

Studies conducted in (blinded country) and around the world have shown that home accidents most frequently occur in children aged 0-4 years. In our study, the frequency of home accidents in the last year and month among children aged 2-3 is significantly higher than among other children in the 0-6 age group. Similar results have been found in Karatepe’s study.

This situation may be due to preschool-aged children spending more time at home, their undeveloped manual skills, their increased interest in their surroundings, and their activity levels.

The frequency of home accidents among children cared for by grandparents or in daycare during the day is higher than for those cared for by their parents. Similar to our findings, Tosun’s study also found that care provided by individuals other than the mother increased the frequency of accidents.¹⁰ This suggests that caregivers’ energy levels and their awareness of child safety may influence the occurrence of home accidents.

In our study, the most common type of home accident was falls, followed by burns. Similarly, many studies conducted worldwide

and in our country have found that falls are the most frequent type of accident.¹¹⁻¹² There are studies where burns have been identified as the first or second most common type of accident.¹³⁻¹⁴ Differences in the most frequently observed types of accidents can depend on the season during which the study was conducted, the type of home, and the environment.

The most affected area in children from accidents is the head-neck region (52.5%), followed by the arms and legs (32.8%). The literature also includes studies where head and neck injuries are commonly reported among children.¹⁵⁻¹⁶

In the study, children of working mothers have a significantly higher frequency of home accidents. There are separate studies that have found both similar and different results compared to our study.¹⁷⁻¹⁸ This difference may stem from whether working mothers have support from helpers or relatives for child care and household chores.

Another significant factor influencing home accidents is the home’s physical condition. In our study, children living in 1-2-room homes have the lowest frequency of home accidents, whereas those living in homes with 5 or more rooms have the highest. Consistent with our findings, Onal’s study found that the number of home accidents increases in homes with many rooms.¹⁴ This situation indicates that the risk of accidents can increase in homes with many rooms, where children are more likely to be unsupervised.

According to TÜİK 2023 data, in our study conducted in the province with the highest fertility rate (3.27), the average number of children per mother was 2.8 ± 1.66 (min = 1, max = 11).¹⁹ An increasing number of siblings in a family can reduce the care a mother can devote to each child, potentially increasing the risk of home accidents.²⁰ However, in our study, no significant relationship was found between the number of children mothers have and the frequency of accidents among children. There is also a study that has found similar results.¹⁷ This situation could be due to families with many children being more experienced in child safety, or a mechanism of solidarity and supervision among siblings coming into play in such families.

In our study, we found that children of mothers who agree with statements that children’s activities need to be constantly monitored and who are more protective have a higher rate of home accidents. Particularly in early childhood, mothers’ overly protective approaches can hinder children’s decision-making abilities, affecting their independence and self-confidence. However, another study found that children of mothers with a protective approach had a lower frequency of injuries resulting from home accidents.²¹ This suggests the need to balance between overprotection and adequate supervision. It has been found that children of mothers who believe accidents are due to bad luck, displaying a more fatalistic approach, have significantly more home accidents compared to children of mothers who think accidents are due to some negligence. A study conducted supports these findings.²² In a fatalistic approach, mothers may accept that accidents are unavoidable and neglect taking necessary safety precautions at home.

Limitations

The findings of this study are limited to the opinions of the mothers who agreed to participate, and the data were collected through parental self-reports, a common limitation of survey studies.

Nevertheless, our study stands out due to its large dataset and high number of participants. These characteristics enhance

the reliability and generalizability of the results, allowing for comprehensive insights into home accidents.

Conclusion

This study highlights the significant factors influencing home accidents among children aged 0–6, including maternal employment status, home environment, and parental perceptions of safety and fatalism. While protective parenting was associated with a higher frequency of home accidents, a fatalistic approach was linked to inadequate safety precautions, further increasing risk. These findings emphasize the importance of balancing supervision and independence in child-rearing and underscore the need for targeted educational interventions to improve parental awareness and accident-prevention strategies.

Declarations

Animal and Human Rights Statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Declaration of Helsinki and its later amendments, or comparable ethical standards.

Informed Consent

Written informed consent was obtained from all participants prior to inclusion in the study.

Data Availability

The datasets used and/or analyzed during the current study are not publicly available due to patient privacy reasons, but are available from the corresponding author on reasonable request.

Conflict of Interest

The authors declare no conflict of interest.

Funding

None.

Author Contributions (CRediT Taxonomy)

Conceptualization: F.D.
Methodology: F.D.
Software: F.D.
Validation: F.D.
Formal Analysis: F.D.
Investigation: F.D.
Resources: F.D.
Data Curation: F.D.
Writing – Original Draft Preparation: F.D.
Funding Acquisition: F.D.
Writing – Review & Editing: R.A.
Project Administration: A.E.

AI Usage Disclosure

The authors declare that no AI-assisted technologies were used.

Abbreviations

FHC: Family health center
SD: Standard deviation
SPSS: Statistical package for the social sciences
STROBE: Strengthening the reporting of observational studies in epidemiology
TÜİK: Turkish statistical institute

References

1. Kıran S, Şemin S, Ergör A. Kazalar ve toplum sağlığı yönünden önemi. [The importance of accidents from a public health perspective] *Sürekli Tıp Eğitimi Derg.* 2001;10(2):50–51.
2. Akbaba M, Nazlıcan E, Demirhindi H. Characteristics of domestic accidents and related factors in Karataş district of Adana province, Turkey. *TAF Prev Med Bull.* 2015;14(3):229–234. doi:10.5455/pmb.1-1419858142
3. Kılıç B, Demiral N, Özdemir Ç, et al. İzmir’de bir gecekondu bölgesinde evde yaralanma insidansı. [Incidence of domestic injuries in a squatter settlement area of İzmir] *Toplum Hekimliği Bülteni.* 2006;25(3):27–32.
4. Köse O, Bakırcı N. Çocuklarda ev kazaları. [Home injuries among children] *Sürekli Tıp Eğitimi Derg.* 2007;16(3):31–35.
5. Kurt FY, Aytekin A. 0–6 yaş grubu çocuklarda ev kazaları. [Home injuries in children aged 0–6

years] *Sağlık Bilim Meslekleri Derg.* 2015;2(1):22–32. doi:10.17681/hsp.26873
6. Erkal S, Şafak S. Determination of the risks of domestic accidents for the 0–6 age group in the Tuzlucaıyır Village Clinic neighborhood. *Türk J Pediatr.* 2006;48(1):56–62.
7. Büyük ET, Çavuşoğlu F, Teker E. Sıfır altı yaş arası çocuğu olan annelerin ev kazalarına yönelik güvenlik önlemlerinin tanılanması. [Assessment of preventive home safety measures among mothers of children aged 0–6 years] *Düzce Univ Sağlık Bilim Ernst Derg.* 2015;5(3):17–22.
8. Gündüz G, Aytekin A. Annelerin çocuklarını ev kazalarından korumaya yönelik tutumları ve etkileyen faktörler. [Attitudes of mothers toward the prevention of childhood home injuries and influencing factors] *İzmir Dr Behçet Uz Çocuk Hast Derg.* 2015;5(3):184–192.
9. Erdem SS, Bolu F, Mayda AS. Annelerin ev kazalarına yönelik güvenlik önlemlerinin tanımlanması. [Assessment of preventive safety measures for home accidents among mothers] *Konuralp Tıp Derg.* 2017;9(2):40–46. doi:10.18521/ktkd.304120
10. Tosun MÇ. 4–6 yaş grubu çocuğu olan annelerin ev kazalarını önlemeye yönelik önlemlerinin incelenmesi ve eğitimin bilgi, tutum ve davranışlara etkisi. [Evaluation of home accident prevention practices among mothers of children aged 4–6 years and the impact of education on knowledge, attitudes, and behaviors] [thesis]. Kayseri: Erciyes University; 2016.
11. Erkal S. Identification of the number of home accidents per year involving children in the 0–6 age group and the measures taken by mothers to prevent home accidents. *Türk J Pediatr.* 2010;52(2):150–157.
12. İnce T, Yalçın SS, Yurdakök K. Çocukluk çağıında ciddi kaza sıklığı ve risk faktörleri. [Frequency of serious accidents in childhood and associated risk factors] *Çocuk Sağlığı Hast Derg.* 2014;57(3):173–182.
13. Demirköse H, Yapar D, Özkan S. 0–6 yaş grubu çocuğu olan annelerin sağlık okuryazarlığı düzeyi ile çocukların ev kazası geçirme durumu ile ilişkisi. [The relationship between health literacy levels of mothers with children aged 0–6 years and the occurrence of home accidents in their children] *Sağlık ve Toplum Derg.* 2021;31(2):74–82.
14. Önal H. 0–6 yaş grubu çocuklarda ev kazaları sıklığı ve etkileyen faktörler. [Prevalence of home accidents and influencing factors among children aged 0–6 years] [thesis]. Kayseri: Erciyes University; 2019.
15. Pervane SŞ, Halil H. Evaluation of children applying to emergency service after motor vehicle trauma. *Injury.* 2024;55(12):111925. doi:10.1016/j.injury.2024.111925
16. Fidancı İ, Derinöz O, Tokgöz A. Çocuk acil servise düşmeye bağlı travma nedeniyle getirilen olgular. [Cases admitted to the pediatric emergency department due to fall-related trauma] *Pediatr Pract Res.* 2021;9(1):5–10. doi:10.21765/ppjournal.874688
17. Karatepe TU, Akış N. 0–6 yaş çocuklarda ev kazası geçirme sıklığı ve ilişkili faktörler. [Epidemiology of home accidents and associated factors in children aged 0–6 years] *Uludağ Univ Tıp Fak Derg.* 2013;39(3):165–168.
18. Aksakal FNB, Çetin FE, Özdemirkan T, et al. 0–6 yaş çocuğu olan ebeveynlerin ev kazaları konusunda bilgi, tutum ve davranışları. [Knowledge, attitudes, and practices of parents with children aged 0–6 years regarding home accidents] In: 15th National Public Health Congress; 2012; Bursa, Türkiye.
19. Turkish Statistical Institute. Statistics on child, 2023. *TurkStat*; 2024.
20. Nathens AB, Neff MJ, Goss CH, et al. Effect of an older sibling and birth interval on the risk of childhood injury. *Inj Prev.* 2000;6(3):219–222. doi:10.1136/ip.6.3.219
21. Morrongiello BA. Understanding toddlers’ in-home injuries: context, correlates, and determinants. *J Pediatr Psychol.* 2004;29(6):415–431. doi:10.1093/jpepsy/jsh046
22. Boztaş G. 0–48 aylık çocukların ev kazaları sonucu oluşan yaralanmalarına ilişkin annelerinin davranış ve görüşlerini etkileyen faktörler. [Factors influencing mothers’ behaviors and perceptions regarding injuries resulting from home accidents in children aged 0–48 months] [thesis]. Ankara: Hacettepe University; 2008.

How to Cite

Feza Demir, Ramazan Azim Okyay, Ayşegül Erdoğan. A multidimensional approach to home accidents in children aged 0–6: a community-based study. *Ann Clin Anal Med* 2026;17(9):00. doi:10.4328/ACAM.22893