ADLİ TIP DERGİSİ
TURKISH JOURNAL OF FORENSIC MEDICINE

J For Med 2023;37(3):122–130
https://doi.org/10.61970/adlitip.2023.1323173

available online at: www.adlitipdergisi.com

ARAŞTIRMA MAKALESİ / ORIGINAL ARTICLE

FORENSIC MEDICINE

A medicolegal evaluation of childhood domestic accidents: A 2-year retrospective single-center study

Çocukluk çağı ev kazalarının adli tıbbi değerlendirmesi: 2 yıllık retrospektif tek merkezli bir çalışma

Ali Özgün Kaya[1], 0009-0000-1928-3475
Sema Demirçin[2], 0000-0003-3669-6823
Cemyigit Deveci[3] 0000-0001-8997-3594

ABSTRACT

Background: Children are at a significant risk of domestic accidents due to their interest, curiosity, and lack of awareness of their surroundings. This study aims to evaluate domestic accidents from a medicolegal perspective and draw attention to the frequency and severity of such accidents in childhood.

Materials and Methods: All ICD-10 codes related to domestic accidents and injuries were scanned and reviewed. A total of 1,835 cases in the age group of 0-18 years, who presented to our hospital with a history of domestic accidents, were identified between January 1st, 2015, and December 31st, 2016.

Results: The mean age of the cases was found to be 45 months (min: 0, max: 215). It was observed that domestic accidents occurred predominantly in the 13-24 months age group, accounting for 494 (26.9%) cases. The majority of accidents occurred in the living room, constituting 672 (36.6%) cases, and the most common type of accident was falling, accounting for 960 (52.4%) cases. Only 451 (24.6%) of the study population were reported to judicial authorities.

Conclusion: In cases of domestic accidents, especially if they are repeated, to avoid overlooking child abuse cases, it is recommended to seek opinions from experienced forensic medicine practitioners in this field, if possible. Establishing a national domestic accident database and conducting further studies on domestic accidents in children will enable us to comprehend the true extent of these accidents and develop new and diverse approaches to prevent them.

Keywords: *Domestic accidents, forensic medicine, child abuse*

ÖZET

Amaç: Çocuklarda meydana gelen ciddi yaralanmaların üçte birinden fazlasının ev ortamında gerçekleştiği bilinmektedir. Çocuklar hareket kabiliyetlerinin kısıtlı olması, çevrelerindeki nesnelere karşı ilgili ve meraklı olmaları ve çevrelerindeki tehlikelerin farkında olmamaları gibi nedenlerle ev kazaları açısından ciddi anlamda risk altındadırlar.

Gereç ve Yöntem: Ev içi kaza ve yaralanmalarla ilgili olabilecek tüm ICD-10 kodları Akdeniz Üniversitesi Hastanesi Bilgi Yönetim Sistemi kullanılarak taranmış ve incelenmiştir. 1 Ocak 2015 ile 31 Aralık 2016 tarihleri arasında hastanemize ev kazası öyküsü ile başvuran 0-18 yaş aralığında toplam 1835 vaka tespit edilmiştir.

Bulgular: Olguların yaş ortalamasının 45 ay (min: 0, maks: 215) olduğu tespit edildi. Ev kazalarının en çok 494 (%26,9) olgu ile 13-24 aylık grupta meydana geldiği görüldü. Kazaların 672 (%36,6) vaka ile en çok oturma odasında meydana geldiği ve en sık görülen kaza tipinin 960 (%52,4) vaka ile düşme olduğu tespit edildi. Araştırma popülasyonunun sadece 451'inin (%24,6) adli makamlara bildirildiği kaydedildi.

Sonuç: Ev kazası olgularında, özellikle bu olgular tekrarlı ise, çocuk istismarı vakalarının gözden kaçmaması için mümkünse bu alanda deneyimli adli tıp pratisyenlerinden görüş alınması tavsiye edilmektedir. Çocuklarda meydana gelen ev kazaları üzerine yapılacak daha fazla araştırma ile ulusal bir ev kazası veri tabanı oluşturmak, bu kazaların gerçek boyutunu görmemize ve bunları önlemek için yeni ve farklı yaklaşımlar geliştirilmesine yardımcı olacaktır.

Anahtar Kelimeler: *Ev kazaları, adli tıp, çocuk istismarı*

Cite as: Kaya AÖ, Demirçin S, Deveci C. A Medicolegal Evaluation of Childhood Domestic Accidents: A 2-Year Retrospective Single-Center Study. J For Med 2023;37(3):122–130

Received: 11.07.2023 • **Accepted:** 10.11.2023

Corresponding Author: Cemyigit Deveci, Council of Forensic Medicine, Antalya Group Administration, Pinarbasi Mh., Akdeniz University Campus, 07070 Antalya, Turkey
E-mail: cemyigit.deveci@gmail.com

[1]M.D., Council of Forensic Medicine, Istanbul, Turkey
[2]M.D., Department of Forensic Medicine, Faculty of Medicine, Akdeniz University, Antalya, Turkey
[3]M.D., Council of Forensic Medicine, Antalya Group Administration, Antalya, Turkey

INTRODUCTION

Accidents account for approximately 10% of all deaths worldwide, resulting in 5.8 million deaths annually (1). It is noteworthy that accidents are the leading cause of death in both males and females up to the age of 40 (2). The number of fatalities attributed to accidents exceeds the combined number of deaths caused by malaria, tuberculosis, and HIV infection by 32% (1). In the United States of America (USA), approximately 12 million children seek medical care annually due to accidents, and 132,000 children require hospitalization and treatment (3). Furthermore, in England, it is reported that over 5,000 individuals die each year as a result of home accidents, and emergency services receive approximately 2.7 million injury-related cases (4).

Accidents are commonly classified based on the locations where they occur (5). According to the World Health Organization (WHO), domestic accidents or home accidents refer to accidents that take place at home or in its immediate vicinity and are as prevalent as traffic accidents (4). Falls, burns, cuts, poisonings, and crashes/collisions are among the most frequent types of domestic accidents across all age groups. Certain population groups, such as preschool children, the elderly, individuals with lower socioeconomic and educational levels, the impoverished, the unemployed, women, and those living in inadequate housing, are particularly vulnerable to domestic accidents (6). Domestic accidents pose a significant public health concern due to their widespread occurrence, potential for causing death or disability, and the fact that they are largely preventable (3). Local studies conducted in Turkey have demonstrated varying incidence rates of domestic accidents ranging from 1% to 15%. Furthermore, domestic accidents rank fourth among the leading causes of child mortality, underscoring their significance (7). According to aggregated data from six European countries, the prevalence of home accidents in the child age group is reported to be 44.9 per 1000, while figures of 56-57 per 1000 in the USA and 35 per 1000 in Italy have been documented (8, 9).

This study aims to assess the measures that can be implemented to safeguard children from domestic accidents. It involves an evaluation of children who were presented to Akdeniz University Hospital with a prior history of domestic accidents that occurred between January 1st, 2015, and December 31st, 2016. The study examines various aspects, including the demographic characteristics of the cases, types of accidents, locations where the accidents took place, timing of the incidents, frequency of disability or death, and the types of injuries resulting from domestic accidents. By analyzing these factors, the study intends to identify preventive measures that can effectively protect children from domestic accidents.

MATERIALS AND METHODS

The ethics approval of our study was given by the Akdeniz University Faculty of Medicine Clinical Research Ethics Committee (approval date: 01.11.2017, approval number: 651). All ICD-10 codes that may be related to domestic accidents and injuries (S00-S99, T00-T32, T36-T65, X00-X19, X40-X49, W05-W40, W65-W70, W73-W80, W85-W87, Y10-Y30, and their subgroups; J68, J69, J93, R98, R99, T71, W00, W01, W44, W45, and their subgroups) were scanned and reviewed using Akdeniz University Hospital Information Management System.

A total of 1,835 cases within the age range of 0-18 years old, who sought medical attention at our hospital with a documented history of domestic accidents, were identified between January 1st, 2015, and December 31st, 2016. The study encompasses a comprehensive analysis of various factors, including demographic data of the cases, timing of the accidents (season, month, day, and hour), specific locations within the house where the accidents occurred, types of home accidents, injuries sustained by the cases, whether the cases were reported to legal authorities, treatment approaches utilized, and the frequency of disability or death among the cases. These elements were evaluated to provide a comprehensive understanding of the characteristics and outcomes associated with home accidents in the studied population.

To ensure consistency in the study, cases involving chemical exposure limited to the skin, which typically result in local effects, were not categorized as

poisoning cases. Instead, these cases were evaluated as chemical burns under the burn category.

For statistical analysis, the data were assigned numerical codes and imported into SPSS (Statistical Package for the Social Sciences) version 23.0. The statistical analysis involved the utilization of the Chi-Square Test and Fisher's Exact Test. A significance level of alpha less than 0.05 ($p<0.05$) was considered "statistically significant" for determining the significance of the results.

Table 1. Distribution of age groups of cases by gender

	Gender					
Age Group	**Male**		**Female**		**Total**	
	n	**%**	**n**	**%**	**n**	**%**
0-12 months old	157	15.0	136	17.2	293	16.0
13-24 months old	289	27.7	205	25.9	494	26.9
25-36 months old	169	16.2	128	16.2	297	16.2
37-48 months old	119	11.4	85	10.7	204	11.1
49-60 months old	70	6.7	56	7.1	126	6.9
61-72 months old	59	5.7	31	3.9	90	4.9
6-10 years old	95	9.1	89	11.3	184	10.0
11-14 years old	49	4.7	34	4.3	83	4.5
15-18 years old	37	3.5	27	3.4	64	3.5
Total	1044	100.0	791	100.0	1835	100.0

RESULTS

A total of 1,835 pediatric cases were presented to Akdeniz University Hospital with a history of domestic accidents between January 1st, 2015, and December 31st, 2016. Out of these cases, 905 cases were reported in 2015, while 930 cases were reported in 2016. Among the domestic accident cases, 1,044 (56.9%) were male, and 791 (43.1%) were female.

The study revealed that the average age of the cases was 45 months, ranging from 0 to 215 months. Domestic accidents were most commonly observed in the 13-24 months age group, accounting for 494 cases (26.9%), followed by the 25-36 months age group with 297 cases (16.2%). Notably, 1,504 cases (82.0%) belonged to the 0-6 years age group. The distribution of cases based on age groups is presented in Table-1.

The analysis revealed that the majority of domestic accidents occurred in the living room, accounting for 672 cases (36.6%). The bedroom was the second most common location, with 286 cases (15.6%), followed by the kitchen with 146 cases (8%). Among the reported cases, six accidents took place in elevators, five on stairs, and one on a fire escape. In 402 cases (21.9%), information regarding the location of the domestic accident was not available in the medical documents. A visual representation of the distribution based on the location of the accidents is presented in Figure-1.

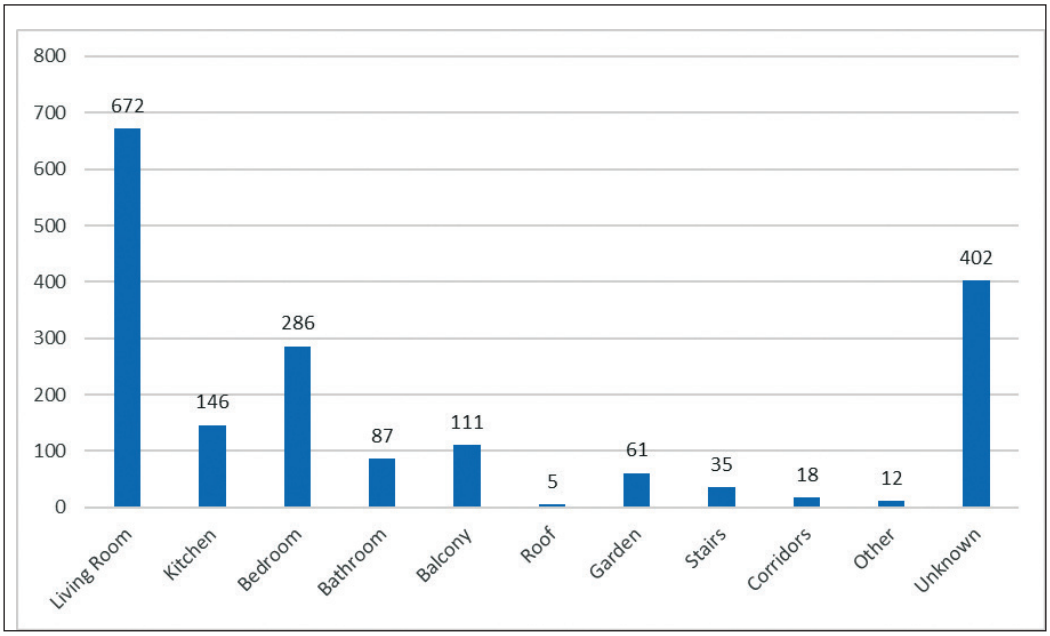

Figure 1. Distribution of domestic accidents in children by house sections

The most prevalent type of domestic accident was falling, accounting for 960 cases (52.4%). This was followed by 266 cases (14.5%) of crash/collision, 195 cases (10.7%) of poisoning, and 111 cases (6.0%) each for burns and falling objects. The top three types of domestic accidents were consistent across both genders. However, there were some gender differences in specific accident types. Accidents such as crashes/collisions, burns, cuts, and getting stuck were more commonly reported in boys, while accidents related to falling, falling objects, and foreign bodies becoming lodged in body parts (ear, nose, eye, etc.) were more frequently observed in girls. Additional details can be found in Table 2 and Table 3.

In all age groups, falling was identified as the most common type of domestic accident. The second most common types of accidents varied across different age groups. For the 0-12 months-old group, burns were the second most frequent type of domestic accident. In the 13-24 months-old group, poisoning incidents were the second most common. Crash/collision injuries ranked second in the age groups ranging from 25 months to 14 years old, while sharp and/or penetrating tool injuries were the second most prevalent type of accident in the 15-18 years-old group.

Specifically, accidental poisoning cases were predominantly observed in the 13-48 months-old group, accounting for 145 cases (74.3%). Accidental burns were more prevalent in children under 24 months old, with 67 cases (60.4%).

There were significant differences in the occurrence of cuts between the age groups (>6-year-old vs. ≤6-year-old) (χ^2=83.910, p<0.001). Cuts were found to be more common in the older age group (>6 years old). Similarly, there were significant differences in the occurrence of poisonings between the age groups (≤6-year-old vs. >6-year-old) (χ^2=12.820, p<0.001). Poisonings were more common in the younger age group (≤6 years old).

The analysis revealed significant associations between specific locations and types of domestic accidents. Falls were found to be significantly more common in the bedroom (χ^2=57.563, p<0.001), on the balcony (χ^2=29.358, p<0.001), and on the stairs

Table 2. Distribution of domestic accident types by gender

	Male		Female		Total	
Domestic Accident	**n**	**%**	**n**	**%**	**n**	**%**
Falls	533	51.0	427	54.0	960	**52.4**
Crash/Collision	157	15.0	109	13.8	266	**14.5**
Poisoning	106	10.2	89	11.3	195	**10.7**
Falling objects	61	5.8	50	6.3	111	**6.0**
Burns	69	6.6	42	5.3	111	**6.0**
Sharp force injury	44	4.2	22	2.8	66	**3.6**
Swallowing foreign body	17	1.6	13	1.6	30	**1.6**
Getting stuck	24	2.3	4	0.5	28	**1.5**
Foreign body within ear, nose or eyes	8	0.8	13	1.6	21	**1.1**
Injury with a blunt object inserted into the mouth-ear or genital area	6	0.6	8	1.0	14	**0.8**
Foreign body aspiration	7	0.7	6	0.8	13	**0.7**
Electrocution	5	0.5	2	0.3	7	**0.4**
Drowning	1	0.1	1	0.1	2	**0.1**
Other	6	0.6	5	0.6	11	**0.6**
Total	1044	100.0	791	100.0	1835	**100.0**

Table 3. Distribution of cases whether to be reported to judicial authorities or not according to the types of home accidents

		Is it reported?		
Domestic Accident		**Yes**	**No**	**Total**
Falls	n	134	826	**960**
	%	14.0	86.0	**100.0**
Crash/Collision	n	7	259	**266**
	%	2.6	97.4	**100.0**
Poisoning	n	184	11	**195**
	%	94.4	5.6	**100.0**
Falling objects	n	32	79	**111**
	%	28.8	71.2	**100.0**
Burns	n	39	72	**111**
	%	35.1	64.9	**100.0**
Sharp force injury	n	13	53	**66**
	%	19.7	80.3	**100.0**
Swallowing foreign body	n	16	14	**30**
	%	53.3	46.7	**100.0**
Getting stuck	n	3	25	**28**
	%	10.7	89.3	**100.0**
Foreign body within ear, nose or eyes	n	2	19	**21**
	%	9.5	90.5	**100.0**
Foreign body aspiration	n	10	3	**13**
	%	76.9	23.1	**100.0**
Injury with a blunt object inserted into the mouth-ear or genital area	n	3	11	**14**
	%	21.4	78.6	**100.0**
Electrocution	n	5	2	**7**
	%	71.4	28.6	**100.0**
Drowning	n	2	0	**2**
	%	100.0	0.0	**100.0**
Other	n	1	10	**11**
	%	9.1	90.9	**100.0**

(χ^2=8.735, p=0.003) compared to the rest of the study population. Poisoning-type domestic accidents showed a significant association with the bathroom (χ^2=96.243, p<0.001) and the kitchen (χ^2=118.918, p<0.001) compared to the rest of the study population. Similarly, domestic burn accidents were significantly more common in the kitchen (χ^2=119.796, p<0.001) compared to the rest of the study population.

Among the falls group of domestic accidents, it was found that 94 cases (46.7%) of children aged 0-12 months reportedly fell from a bed, cradle, or similar elevated surfaces. This was followed by falling from a sofa, reported in 59 cases (29.4%), and falling from one's own level, reported in 23 cases (11.4%). Furthermore, it was observed that falling from one's own level was the most common type of fall in all age groups beyond 12 months old.

Among the domestic accidents in our study population, poisonings accounted for 10.7% (n=195) of cases. These poisonings were further categorized into two groups: pharmacological agent intoxications and non-pharmacological agent intoxications. Pharmacological agent intoxications were identified in 53 cases (27.2%) out of the 195 poisoning cases, while non-pharmacological agents were responsible for poisoning in 142 cases (72.8%). Among the pharmacological agent intoxication cases, the most frequently detected drugs were analgesics, antipyretics, and myorelaxant derivatives, which accounted for 18 cases (34.0%). This was followed by psychiatric drugs such as antidepressants, antipsychotics, and anxiolytics, which were involved in 7 cases (13.2%). In non-pharmacological agent intoxications, the most common causes were bleach, reported in 28 cases (19.7%), followed by dishwasher brighteners in 20 cases (14.1%), and oil/rust/limescale removers in 19 cases (13.4%).

Within the domestic accidents in our study population, falling objects accounted for 6% (n=111) of cases. Among these incidents, the most common household item that fell on children was the television, reported in 36 cases (32.5%). This was followed by cabinets/bookshelves and their sections, which were involved in 23 cases (20.7%), and tables, coffee tables, shelving, and similar items, which were associated with 21 cases (18.9%).

In our study, it was found that only 24.6% (n=451) of the study population had their cases reported to judicial authorities. Notably, all cases of domestic drowning accidents (n=2, 100.0%) and almost all cases of domestic poisoning accidents (n=184, 94.4%) were reported to judicial authorities. However, it is concerning that only 14.0% (n=134) of falls, which accounted for 52.4% (n=960) of all domestic accidents, and only 2.6% (n=7) of crash/collision accidents, which constituted 14.5% (n=266) of home accidents, were reported to judicial authorities Table-3. This indicates a significant underreporting of these types of accidents.

In the study population, the majority of cases (n=1466, 79.9%) were treated as outpatients and discharged from the hospital after receiving appropriate medical care. However, a significant proportion of cases (n=308, 16.8%) required hospitalization. It was concluded that 6 (0.4%) of the cases (n:1337) who were injured due to domestic accidents died, and 10 (0.7%) cases had to live on with a permanent disability.

DISCUSSION

Domestic accidents, which are likely to occur wherever there is housing and its inhabitants, are an important public health problem. They can be prevented when appropriate protection methods are followed, are common, and can cause a high disease burden, death, disability, loss of labor at various degrees, and financial losses (3, 10, 11). Identifying children at risk, understanding the predisposing causes, and developing appropriate preventive methods are essential for solving this problem (8).

In many studies conducted in Turkey and around the globe, it has been reported that domestic accidents are more common in boys, consistent with the results of the present study. These studies have also found that the higher incidence of domestic accidents in boys may be attributed to their more active, curious, and risk-taking behaviors in their daily routines (9, 12-19). This behavior pattern could be influenced by a patriarchal approach to raising children, particularly in developing and underdeveloped countries, where girls may experience greater oppression while boys enjoy more freedom.

In the present study, it was found that domestic accidents occurred in the 13-24 months-old age group, accounting for 494 (26.9%) of the total study population. Similarly, a study conducted in Norway (17) reported a higher incidence of domestic accidents among children in the 13-24 months-old age group. This can be attributed to the fact that children in this age range spend most of their time at home and tend to explore their environment with curiosity and wonder. Additionally, their movements are often uncoordinated as they begin to crawl and walk during this period.

Identifying the areas within the household where domestic accidents most commonly occur is important for parents to recognize the potential risks on their property and take appropriate measures. In a study on domestic accidents among children aged 0-6 years in Bursa (10), it was found that 82.22% of the accidents occurred inside the house, 12.23% on the stairs, and 5.62% in the garden. Another study conducted in Çanakkale within the same age group (5) reported that 28.6% of the children had domestic accidents in the living room. In a study examining the frequency and risks of accidents in children under the age of ten in Ankara (20), it was determined that 52.2% of the accidents occurred inside the house, with approximately half of them taking place in the living room. Asirdizer et al. (12) reported that 39.6% of the accidents occurred in the bedroom, while Faruque and Khan (14) found this frequency to be 37.0%. In our study, 36.6% of the cases had accidents in the living room, which aligns with the findings of studies conducted in Ankara and Çanakkale (5, 20). These results are not surprising considering that children spend a significant amount of time in the living room with their families or in their bedrooms.

In numerous studies conducted in Turkey and globally, it has been consistently reported that the most common type of domestic accident in children is falling (1, 3, 5, 10, 18, 21-23). However, some other studies have also reported accidents other than falls to be the most prevalent type (12, 13). The variations in accident patterns across studies may be attributed to differences in environmental and geographical conditions, housing characteristics, and cultural habits of the regions where the studies were conducted. Falls were identified as the most frequent type of domestic accident in our study, leading the authors to speculate that enhanced parental supervision, effective precautionary measures, and the implementation of legal regulations could substantially reduce childhood domestic accidents and have direct and indirect effects on public health and the healthcare system.

The location and height of falls have been reported differently in the literature. Oral et al. (24) observed that the most common type of fall was from one's own level during running or walking, followed by falls from beds, stairs, and sofas in a study involving children under 2 years old. In contrast, Chang et al. (25) found that 44.0% of their study population fell from furniture. Furthermore, Taşkınlar et al. (26) examined falls from heights in children and reported that 64.0% (n: 36) of their cases fell from balconies and windows. The lower number of cases falling from their own level in our study may be a direct result of the general acceptance of such falls as normal, with parents or the children themselves handling simple injuries (abrasions, minor soft tissue traumas, etc.). It is also evident that furniture poses a significant risk for falling accidents. When children are left unattended or inadequately supervised by caregivers without appropriate safety equipment on the furniture, they are more susceptible to falling from furniture.

It has been consistently reported that prescription medicine is the most common cause of poisoning in the pediatric age group (15, 17, 25, 27-29). The use of aspirin, one of the frequently prescribed pharmaceutical agents, was restricted after its association with Reye's Syndrome in children was established, leading to a significant decline in aspirin intoxication cases (15, 17, 29). In a study conducted in Istanbul (27) that examined visits to the pediatric emergency department due to pharmaceutical agent poisoning, the most common agents causing poisoning were non-steroidal anti-inflammatory drugs (13.0%), followed by antipyretic drugs (12.0%) and antipsychotic drugs (8.0%). As expected, our study also observed that the most frequently detected drug groups were analgesics, antipyretics, and myorelaxant derivative drugs, which are readily available over the counter.

Turan et al. (30) reported that the most common objects that fall on children at home were televisions, cabinets, and showcases, in that order. In a study by Wolf and Harding (31), which involved the autopsy of 9 children aged between 17 months and 6 years who died at home due to objects falling on them, it was found that televisions were involved in 4 cases, dressers in 3 cases, kitchen stoves in 1 case, and a lounge chair in 1 case. The present study also identified a notable number of cases in which children were injured by falling objects. Considering that falling objects can be easily secured, it is perhaps one of the most preventable types of accidents highlighted in this study.

It would be appropriate for healthcare providers to inform the judicial authorities about children who require necessary medical interventions. Ozen et al. (32) examined cases of physical abuse in children aged 0-3 years who presented to the emergency service due to falls and found that the majority of these accidents occurred at home. Surprisingly, they noted that judicial authorities were only notified in 30.9% of these cases. Domestic accidents, particularly in children, should be carefully evaluated in terms of notifying the judicial authorities, as they can be used as a cover-up for child abuse and may give rise to legal issues regarding caregiver responsibility. In our study, it was found that only 24.6% of the overall study population and 14.0% (n: 134) of fall cases were reported to the judicial authorities as forensic cases. Considering that many cases of child abuse initially present as home accidents, it is possible that some instances of child abuse could be overlooked without thorough examination and comprehensive medical history assessment.

Despite efforts to prevent them, domestic accidents remain a significant cause of disability and death (3, 10, 11, 33). According to a study conducted by the Turkish Ministry of Health, 120,000 children sought hospital treatment for domestic accidents within a five-year period, and 2000 children (1.6%) lost their lives (21). The mortality and disability rates revealed in our study are also alarmingly high and should not be underestimated. Considering the serious injuries and deaths resulting from domestic accidents, caregivers must take measures such as closely monitoring children at home, providing age-appropriate accident education, making appropriate household arrangements, and using safety equipment to prevent easily avoidable injuries, disabilities, and deaths.

To avoid overlooking cases of child abuse, it is recommended, if possible, to seek input from experienced forensic medicine practitioners in this field. "Child abuse" should be kept in mind during history taking, examination, and interpretation of findings. Providing regular training to all healthcare professionals and physicians on the characteristics of forensic cases, particularly child abuse cases, can play a crucial role in increasing awareness, making accurate diagnoses, identifying abused children, meeting their treatment needs, and reducing the risk of future disabilities or deaths.

For children who have experienced repeated home accidents, those who have been subjected to abuse, and those living in families unable to provide a safe home environment due to financial or health issues, "protective measures" can be implemented by relevant institutions, keeping the principle of "the best interest of the child" in mind. Social service workers can conduct multiple home visits, prepare a comprehensive social examination report that includes the family's health, disabilities, socioeconomic status, parental relationships with the children, and physical conditions of the home environment highlighting deficiencies and suggesting improvements and submit this report to the appropriate institutions.

While this study provides valuable insights into the characteristics and outcomes of domestic accidents among children, several limitations should be acknowledged. Firstly, the study was conducted at a single institution, Akdeniz University Hospital, which may not fully represent the diversity of domestic accidents across different regions and healthcare settings. Therefore, the findings may not be entirely generalizable to other populations or geographic areas. Secondly, the retrospective nature of the study introduces the potential for recall bias and incomplete documentation of cases. The accuracy of the data in this study hinged on the completeness and precision of the medical records. It's evident, as depicted in Figure-1, that there were a substantial number of cases where

relevant information was either not recorded or was inadequately documented, resulting in a significant proportion of "unknown" cases. Additionally, the study's focus on cases presented to a hospital setting may not capture less severe domestic accidents that were managed at home or in primary care settings. This could result in an underestimation of the overall prevalence of domestic accidents among children. In conclusion, while this study provides valuable insights into domestic accidents among children and their associated factors, these limitations should be considered when interpreting the findings. Future research in this field should aim to address these limitations by conducting prospective studies with larger and more diverse populations, collecting comprehensive data on contextual factors, and exploring the circumstances surrounding individual accidents to further enhance our understanding of this critical public health issue.

CONCLUSION

The prevention of domestic accidents requires a multidisciplinary approach. Health professionals working in primary care can play a beneficial role by conducting repetitive and regular home visits to identify risk factors using home safety checklists, providing families with training on preventing domestic accidents, offering information on safety equipment, and delivering first aid education. Our findings also underscore the importance of targeted prevention strategies based on age groups, as they reveal location-specific and age-specific patterns and differences in the types of domestic accidents. Pediatricians can contribute by informing families about the potential domestic accidents children may encounter and discussing preventive measures. Legislative actions should be taken to ensure that houses are built in accordance with safety standards and that safety covers for children are available for certain products.

Furthermore, establishing a national domestic accident database and conducting more studies on domestic accidents in children will provide a comprehensive understanding of the prevalence of childhood home accidents in the country. This can help in developing new and innovative approaches to prevent domestic accidents.

Ethics approval and consent to participate: *The study was approved by the Akdeniz University Faculty of Medicine Clinical Research Ethics Committee (date and number 01.11.2017 / 651*

Competing interests: *No competing interests are declared by the authors.*

Funding: *No funding was received from any source for the completion of this work.*

REFERENCES

1. Peden M, World Health O. World report on child injury prevention. Geneva: World Health Organization; 2008.
2. Yıldırım S, Karsen H, Çadırcı D. Ev kazaları nedeniyle acil servise başvuran hastaların değerlendirilmesi. Harran Üniversitesi Tıp Fakültesi Derg. 2016;13(1):68–73.
3. Karatepe TU, Ekerbiçer HÇ. Çocuklarda ev kazaları. Sakarya Tıp Derg. 2017;7(1):1.
4. Gür K, Erol S, Sezer A, Şişman FN. Ev ziyaretleriyle ev kazası risk faktörlerinin saptanması ve belirlenen kazaların özellikleri. Sürekli Tıp Eğitimi Derg. 2013;22(6):225–32.
5. Yılmaz Kurt F, Aytekin A. 0–6 yaş grubu çocuklarda ev kazaları. Sağlık Bilimleri ve Meslekleri Derg. 2015;2(1):22–32.
6. Şahiner P, Özkan Ö, Hamzaoğlu O. Kocaeli ilindeki sosyoekonomik düzeyi düşük hanelerde ev kazası insidansı ve risk faktörleri. TSK Koruyucu Hekimlik Bül. 2011;10(3):257–68.
7. Tural Büyük E, Çavuşoğlu F, Teker E. Sıfır altı yaş arası çocuğu olan annelerin ev kazalarına yönelik güvenlik önlemlerinin tanılanması. Düzce Üniversitesi Sağlık Bilimleri Enstitüsü Derg. 2015;5(3):17–22.
8. Altuntaş M, Kaya M, Demir Ş, Oyman G, Metecan A, Rastgel H, Öngel K. 0–14 Yaş arası çocuklarda önlenebilir nitelikteki kazaların belirlenmesi ve ilişkili tedbirlerin alınması. Smyrna Tıp Derg. 2013;(1):28–33.
9. Balibey M, Polat S, Ertem İ, Beyazova U, Şahin F. Çocukluk çağında ev kazalarına yol açan etmenler. Sürekli Tıp Eğitimi Derg. 2011;20(3):89.
10. Karatepe TU, Akış N. 0–6 yaş çocuklarda ev kazası geçirme sıklığı ve ilişkili faktörler. Uludağ Üniversitesi Tıp Fakültesi Dergisi. 2013;39(3):165–8.
11. Turan T, Altundağ Dündar S, Yorgancı M, Yıldırım Z. 0–6 yaş grubu çocuklarda ev kazalarının önlenmesi. Ulus Travma Acil Cerrahi Derg. 2010;16(6):552–7.
12. Asirdizer M, Yavuz MS, Albek E, Canturk G. Infant and adolescent deaths in Istanbul due to home accidents. Turk J Pediatr. 2005;47(2):141–9.
13. Broides A, Assaf M. Home accidents in Arab Bedouin children in southern Israel. J Child Health Care. 2003;7(3):207–14.
14. Faruque AV, Mateen Khan MA. Unintentional injuries in children: are our homes safe? J Coll Physicians Surg Pak. 2016;26(5):445–6.
15. Lossing E, Goyette RB. Review of 1.000 home accidents. Can J Public Health. 1957;48(4):131–40.
16. Mohammadi R, Ekman R, Svanstrom L, Gooya MM. Unintentional home-related injuries in the Islamic Republic of Iran: findings from the first year of a national programme. Public Health. 2005;119(10):919–24.
17. Murdock R, Eva J. Home accidents to children under 15 years: survey of 910 cases. BMJ. 1974;3(5923):103–6.

18. Ozturk C, Yıldırım Sarı H, Bektaş M, Elçigil A. Home accidents and mothers measurements in preschool children. Anatol J Clin Investig. 2010;4(1):15–21.
19. Yalaki Z, Tasar MA, Kara N, Dallar Y. Sosyoekonomik düzeyi düsük olan ailelerin ev kazalari hakkinda bilgi düzeylerinin ölçülmesi/Measuring the awareness of home injuries in families with a low socioeconomic status. Eurasian J Emerg Med. 2010;9(2):129.
20. İnce T, Yalçın SS, Yurdakök K. Çocukluk çağında ciddi kaza sıklığı ve risk faktörleri. Çocuk Sağlığı ve Hastalıkları Derg. 2014;57(3):173–82.
21. Köse OÖ, Bakırcı N. Çocuklarda ev kazaları. Sürekli Tıp Eğitimi Derg. 2007;16(3):31–5.
22. Sikron F, Giveon A, Aharonson-Daniel L, Peleg K. My home is my castle! Or is it? Hospitalizations following home injury in Israel, 1997–2001. Isr Med Assoc J. 2004;6(6):332–5.
23. Üçüncü M, Üçüncü M, Toprak D. 0–6 Yaş grubu çocuğu olan annelerin ev kazaları ve korunma yolları konusundaki bilgi, tutum ve davranışları ile sosyodemografik özelliklerin buna etkisi. J Ist Faculty Med. 2019;82(4):219–28.
24. Oral R, Floryanovich A, Goodman J, Turkmen M. Characteristics of household falls in children under 2 years of age. Turk J Pediatr. 2007;49(4):379–84.
25. Chang LT, Tsai MC. Craniofacial injuries from slip, trip, and fall accidents of children. J Trauma Acute Care Surg. 2007;63(1):70–4.
26. Taşkınlar H, Kılıç S, Bahadır G, İşbir C, Naycı A. Çocuklarda yüksekten düşme sonucu oluşan travmaların değerlendirilmesi. Mersin Üniversitesi Sağlık Bilimleri Derg. 2016;9(3):131–7.
27. Demirgan EB, Erol M, Demirgan S, Yiğit Ö, Türkay M. Çocuk acil polikliniğine başvuran ilaç ile zehirlenme olgularının retrospektif değerlendirilmesi. Okmeydanı Tıp Derg. 2014;30(3):128–34.
28. Dymowski JJ, Uehara DT. Common household poisonings. Pediatr Emerg Care. 1987;3(4):261–5.
29. Öner N, İnan M, Vatansever Ü, Turan Ç, Çeltik C, Küçükuğurluoğlu Y, Duran R, Karasalihoğlu S. Trakya bölgesinde çocuklarda görülen zehirlenmeler. Turk Arch Pediatr. 2004;39(1).
30. Turan Y, Uysal C, Korkmaz M, Yılmaz T, Göçmez C, Özevren H, Gören S, Ceviz A. Kaza ile üzerine cisim düşmesine bağlı hastaneye başvuran hastaların değerlendirilmesi. Dicle Tıp Derg. 2015;42(1):51–4. https://doi.org/10.5798/diclemedj.0921.2015.01.0529
31. Wolf BC, Harding BE. Household furniture tip-over deaths of young children. J Forensic Sci. 2011;56(4):918–21. https://doi.org/10.1111/j.1556-4029.2011.01740.x
32. Özen B, Bütün C, Yücel Beyaztaş F. Düşme nedeniyle acile başvuran 0–3 yaş grubu çocuklarda fiziksel istismarın incelenmesi. Adli Tıp Derg. 2015;29(1):12–21.
33. Dizdar MG, Asirdizer M, Yavuz MS, Uluçay T, Zeyfeoğlu Y. Deaths due to home accidents between 2005 and 2012 in Izmir. Turkiye Klinikleri J Foren Sci Leg Med. 2014;11(1):28–38.