



## PARENTS' KNOWLEDGE, ATTITUDES AND PRACTICES REGARDING HOUSEHOLD INJURY OF CHILDREN UNDER 5 YEARS OLD

Angela CAZACU-STRATU<sup>1</sup>, Svetlana COCIU<sup>1</sup>, Alexandru PLAMADEALA<sup>1</sup>, Madalina COMAN<sup>2</sup>

<sup>1</sup>Nicolae Testemitanu State University of Medicine and Pharmacy, the Republic of Moldova

<sup>2</sup>Babes-Bolyai University, Cluj-Napoca, Romania

Corresponding author: Angela Cazacu-Stratu, e-mail: angela.cazacu@usmf.md

DOI: 10.38045/ohrm.2023.2.06

CZU: [614.8.026+616-001]-053.4

**Keywords:** home-related injuries, children aged 0-5 years old, safety.

**Introduction.** Around 950,000 children and teenagers die each year as a result of injuries and violence throughout the world. The most common cause of death for children under the age of five is trauma that occurs in the home environment. Aim of the study: To assess the knowledge, attitudes and practices of parents with children aged 0-5 years old regarding unintentional injuries among home environment. **Materials and methods.** Parents of children under five years old were asked to complete a survey between October and December 2021, which was distributed online via social media. The questionnaire contained 43 items and was analysed using Microsoft Excel. **Results.** The questionnaire was completed by 300 parents with children up to 5 years old, mostly aged between 26-35 years old (72%), with high education (79.3%), of them 96% females, majority from urban areas (79.7%), with medium socio-economic status. Nearly 75% of respondents believe their child could get hurt at home, most commonly through an injury (42.7%), followed by ingesting foreign objects (22%). Falls were the primary cause of the majority of the child's accidents over the last year (60%) despite them being uncommon (54.7%) and infrequent (22%) in nature. Most often (54.7%), parents said that they see and hear their child all the time, but occasionally leave them for a short time. When their child suffered an injury at home, only 33.3% of parents sought medical attention. **Conclusion.** The results of this study will allow for a greater focus on young children's safety in the household. By identifying and emphasizing the knowledge, attitudes, and practices of parents with children 0-5 years old, we will be able to notify the necessary authorities and advise particular measures to prevent home accidents.

**Cuvinte cheie:** leziuni la domiciliu, copii între 0-5 ani, siguranță.

**CUNOȘTINȚELE, ATITUDINILE ȘI PRACTICILE PĂRINȚILOR CU PRIVIRE LA TRAUMATISMELE CASNICE LA COPIII SUB 5 ANI**

**Introducere** Aproximativ 950.000 de copii și adolescenți decedază în fiecare an în întreaga lume ca urmare a traumelor și a violenței. Cea mai frecventă cauză de deces pentru copiii sub cinci ani sunt traumele care au loc în mediul casnic. Scopul studiului: evaluarea cunoștințelor, atitudinilor și practicilor părinților care au copii cu vârstele cuprinse între 0-5 ani în ceea ce privește leziunile neintenționate în mediul casnic. **Material și metode.** Părinții copiilor sub 5 ani au completat un chestionar în perioada octombrie - decembrie 2021, care a fost distribuit online prin rețelele sociale. Chestionarul a conținut 43 de itemi și a fost analizat folosind Microsoft Excel. **Rezultate.** Chestionarul a fost completat de 300 de părinți. Majoritatea părinților aveau vârstele cuprinse între 26-35 de ani (72%), cu studii superioare - 79,3%, dintre care 96% de femei, majoritatea din mediul urban (79,7%), cu statut socio-economic mediu. Aproape 75% considerau, că în condițiile casnice copii lor ar putea fi afectați cel mai frecvent din cauza unei răni (42,7%), urmată de ingerarea de obiecte străine (22%). În ultimul an, conform itemilor din chestionar, căderile au fost cauza principală a traumelor copiilor (60%), în 54,7% căderile au fost înregistrate mai puțin frecvent și în 22% de cazuri - rar. De cele mai multe ori (54,7%) părinții au menționat că copiii sunt permanent supravegheați, totuși, ocazional, se întâmplă să-i lase fără supraveghere pe o durată scurtă de timp. Când copilul lor a suferit o traumă acasă, doar 33,3% dintre părinți au solicitat îngrijiri medicale.

**Concluzie.** Rezultatele acestui studiu accentuează importanța siguranței copiilor în mediul casnic. Prin identificarea și evidențierea cunoștințelor, atitudinilor și practicilor părinților cu copii sub 5 ani, vom putea sesiza instituțiile necesare să întreprindă măsuri speciale pentru prevenirea traumatismelor casnice.

## INTRODUCTION

Childhood is the most precious period of life and should not be affected by the suffering caused by trauma and accidents. Worldwide, household accidents are the leading cause of preventable disabilities and morbidity among children. Falls, burns, choking, and fires are among the most common causes (1, 2). Globally, more than 2,000 children die every day from unintentional injuries, according to the World Child Injury Prevention Report, but most of these are preventable. Children between the ages of 0 and 5 are most likely to be injured at home (1), since children spend most of their time there and they are more susceptible to various types of injury (3, 4). Household trauma is a significant medical and social problem, which is becoming increasingly important today. The World Health Organization estimated that 424 000 people of all ages died in 2004 as a result of falls, and more than 95% of young children's deaths occur in low- and middle-income countries, where most injuries are home accidents (1, 4). Every year, more than 40,000 children from the Republic of Moldova end up in hospitals as a result of home accidents. In the Republic of Moldova, injuries and accidents are the third leading cause of death in children under the age of 5 (4).

*Purpose of the study:* to assess the knowledge, attitudes and practices of parents of children aged 0 to 5 years regarding unintentional injuries at home.

## MATERIAL AND METHODS

A cross-sectional study was conducted for a period of 3 months, viz. October-December 2021. An online questionnaire was submitted via social networks, which included 43 questions regarding the assessment of parents' knowledge, attitudes and practices related to household injuries and their first aid. Before completing the questionnaire, parents filled out an informed consent to be enrolled within the present study. This, in turn, included personal data about the participants and the study (name of the study, objectives, risks, and data privacy). The questionnaire included questions related to the socio-demographic indicators of parents, the frequency of household injuries, as well as the first aid provided. The survey validity was tested on a sample of 20 randomly selected individuals, and their results were not included in the final analy-

sis. The preliminary questions were corrected, and subsequently the necessary changes were made for the purpose of its final validation. The inclusion criteria were considered parents with children under the age of 5. People who did not comply the study criteria were not included within the study.

## RESULTS

The study involved 300 parents aged between 25 and 55. Of the total number of parents who participated in the study, 72% were aged between 26-35, 14.3% of parents were under the age of 25 and 13.3% were aged 36-45 years old; 79.3% of respondents have higher education, 13.7% – specialized secondary education, 4.7% – secondary education and 2.3% – high school education. Parents included in the study had an average socioeconomic level in 90.7% of cases, a high socioeconomic level in 6.0%, and a low socioeconomic level in 3.3% (tab. 1).

Parents mentioned that their children were injured due to several factors, thus, over the past year, 81.7% of parents indicated to injuries as a result of a fall, 14.7% of parents reported injuries by stings and cuts, 4.3% – burns and 3% – poisoning. As regarding the frequency of home-related injuries over the last year, parents reported frequent cases in 5.3%, rare cases in 54.7%, accidental cases in 22%, and very rare cases in 54.6%.

More than half (50.6%) of affected children were aged 0 to 2 years, 26.5% were aged 3 to 4 years, and 22.9% were aged  $\geq 4$  years. The most affected ones, as a result of household traumas, are the boys, making up 62.4% of cases.

Based on the parental responses, a significant number of parents (27%) of one-year-olds, if compared to parents of children aged 2-4 years, believe that various dangerous objects in the house can be possible risk of injury. At the same time, 36.3% of parents indicated that these do not pose a possible injury hazard, and 17% of parents do not know that dangerous objects, such as sharp objects, chemicals or buttons, may pose a possible threat to children (tab. 2).

However, if referring to the level of education, age and awareness of parents about the possible risks of injury to their children, it was determined that the younger the parents are, the

greater is the number of parents who are aware of the increased risk of injury in the household environment. Accordingly, a greater percentage of parents, aged 26-35 years, who had a higher

educational level (59.7%), considered a lower risk of traumatization (29.3%) of children within the household settings (tab. 3).

Table 1. Distribution of parents based on socio-demographic indices.

Characteristics	Absolute Number of Parents	% (n=300)
<b>Parents' age (years)</b>		
<25	43	14.3
26-35	216	72
36-45	40	13.3
46-55	1	0.3
<b>Education</b>		
Secondary Education	14	4.7
High School Education	7	2.3
Specialized Secondary Ed.	41	13.7
Higher Education	238	79.3
<b>Socio-economic level</b>		
High	18	6.0
Average	272	90.7
Low	10	3.3
<b>Living settings</b>		
Rural	61	20.3
Urban	239	79.7
<b>Number of children</b>		
1	246	82.4
2	49	16.3
3	5	1.3

Table 2. Distribution of parental responses based on the possible risk of injury to children with dangerous objects (cutters, chemicals, buttons).

Variables	Child age, years, (n, %)				Total
	1 year	2 years	3years	4 years	
Yes	81 (27)	23 (7.7)	5 (1.7)	3 (1)	112 (37.4)
No	106 (36.3)	17 (5.6)	3 (1)	1 (0.3)	127 (42.3)
Unknown	51 (17)	8 (2.7)	2 (0.7)		61 (20.3)
<b>Total</b>	<b>238 (79.3)</b>	<b>48 (16)</b>	<b>10 (3.4)</b>	<b>4 (1.3)</b>	<b>300</b>

Over the past year, 82.3% of the total number of children included in the study had an injury. Accordingly, 33.1% of these children needed medical care, 32% of children received treatment at home, and only 11.3% of children did not require any medical care. The condition of the child after injury was regarded as severe by 1.7% of the parents surveyed. Most of the injured children (31%) were only examined, after which they were discharged and no treatment or further medical follow up were required (tab. 4).

## DISCUSSIONS

Current research highlights the importance of studying household injuries among children, especially among those under the age of 5, as well as reveals the worldwide data (1, 4). Injuries occurring in home settings are an important health problem among the population under study, which requires their urgent prevention, especially in the Republic of Moldova, where the data need to be studied in detail. The findings also show that the increasing parental aware-

ness of home safety will reduce the prevalence under 5 years old (5, 6).  
and improve injury prevention among children

Table 3. Frequency of possible risk of injury in children according to the parental responses, depending on the level of their education and age.

Level of Education	Parents' age, years, (n, %)				Total
	< 25 years	26-35 years	36-45 years	46-55 years	
<b>Secondary Education</b>	<b>3 (1)</b>	<b>9 (3)</b>	<b>2 (0.7)</b>		<b>14 (4.7)</b>
Very high		1 (0.3)			1 (0.3)
Very low		4 (1.3)	1 (0.3)		5 (1.7)
High	1 (0.3)		1 (0.3)		2 (0.7)
Low	2 (0.7)	4 (1.3)			6 (2)
<b>High School Education</b>	<b>1 (0.3)</b>	<b>6 (2)</b>			<b>7 (2.3)</b>
Very low		1 (0.3)			1 (0.3)
Low	1 (0.3)	5 (1.7)			6 (2)
<b>Specialized Secondary Ed.</b>	<b>12 (4)</b>	<b>22 (7.3)</b>	<b>6 (2)</b>	<b>1 (0.3)</b>	<b>41 (13.7)</b>
Very high	1 (0.3)	1 (0.3)			2 (0.7)
Very low	4 (1.3)	1 (0.3)	4 (1.3)		9 (3)
High	3 (1)	8 (2.7)		1 (0.3)	12 (4)
low	4 (1.3)	12 (4)	2 (0.7)		18 (6)
<b>Higher Education</b>	<b>27 (9)</b>	<b>179 (59.7)</b>	<b>32 (10.7)</b>		<b>238 (79.3)</b>
Very high	2 (0.7)	5 (1.7)	1 (0.3)		8 (2.7)
Very low	5 (1.7)	48 (16)	8 (2.7)		61 (20.3)
High	7 (2.3)	38 (12.7)	4 (1.3)		49 (16.3)
Low	13 (4.3)	88 (29.3)	19 (6.3)		120 (40)
<b>Total</b>	<b>43 (14.3)</b>	<b>216 (72)</b>	<b>40 (13.3)</b>	<b>1 (0.3)</b>	<b>300</b>

Table 4. Need of treatment and medical follow-up of injured children depending on their condition after injury.

Child's condition after injury/ Need of treatment and follow-up	Child age, years, (n, %)				Total
	0-1 year	1-2 years	2-3 years	3-4 years	
<b>Acceptable</b>	<b>32 (11)</b>	<b>5 (1.7)</b>	-	-	<b>37 (12.7)</b>
Other variants	10 (3.4)	2 (0.7)	-	-	12 (4.1)
Examined and discharged, no treatment	9 (3.1)	2 (0.7)	-	-	11 (3.8)
Treated, discharged and followed up	10 (3.4)	-	-	-	10 (3.4)
Treated, discharged, no follow up	1 (0.3)	-	-	-	1 (0.3)
Treated and admitted to the same hospital	2 (0.7)	1 (0.3)	-	-	3 (1)
<b>Good</b>	<b>194 (66.7)</b>	<b>41 (14.1)</b>	<b>10 (3.4)</b>	<b>4 (1.4)</b>	<b>249 (85.6)</b>
Other variants	104 (35.7)	15 (5.1)	5 (1.7)	1 (0.3)	125 (42.9)
Examined and discharged, no treatment	57 (19.6)	20 (6.9)	2 (0.7)	-	79 (27.)
Treated, discharged and followed up	21 (7.2)	4 (1.4)	2 (0.7)	1 (0.3)	28 (9.6)
Treated, discharged, no follow up	9 (3.1)	1 (0.3)	1 (0.3)	2 (0.7)	13 (4.5)
Treated and admitted to the same hospital	3(1)	1 (0.3)	-	-	4 (1.4)
<b>Bad</b>	<b>4 (1.4)</b>	<b>1 (0.3)</b>	-	-	<b>5 (1.7)</b>
Treated, discharged and followed up	2 (0.7)	-	-	-	2 (0.7)
Treated, discharged, no follow up	1 (0.3)	-	-	-	1 (0.3)
Treated and admitted to the same hospital	1 (0.3)	1 (0.3)	-	-	2 (0.7)
<b>Total</b>	<b>230 (79)</b>	<b>47 (16.2)</b>	<b>10 (3.4)</b>	<b>4 (1.4)</b>	<b>291</b>

The study results show that male children (62.4%) were most often involved in household traumas. Sex differences have also been identified by other authors (7), whose studies found a higher rate of injured boys (57.5%) compared to girls.

The majority of parents (81.7%) reported that their children had been injured by a fall within the last year, thus, children aged between 0 and 2 years old were the most likely to be injured (50.6%), followed by children aged  $\geq 3$  years (26.5%). Moreover, the authors of another study (8) determined that 35% of injuries were related to falls among the same age group.

Most parents use some form of protective equipment to help create a safe environment for their children (9), however, one third of parents

under study (27%) believe that various hazardous things kept at home may pose a possible risk of injury to their children. We believe that childcare should be monitored in order to increase parents' responsibility. However, to reduce possible injuries, a change in the risky behaviour of children is also required. As a result of an injury, a third of children (33.1%) needed medical care, and about a third (32%) were treated at home. It is noteworthy that proper prehospital care, as well as the timely first aid given by parents, are of great importance in preventing the worsening conditions of children injured at home (10, 11).

A growing number of studies highlight the fact that parental education, information and increasing capacities might contribute significantly to children's safety at home (11, 12).

## CONCLUSIONS

1. The study revealed both the awareness level and attitude of parents of children aged 0-5 years to household injuries, as well as their severity and the importance of their prevention.
2. In order to prevent household injuries in children under the age 5, it is important to raise parental awareness of possible risks occurring in home environment.
3. Responsible authorities should develop safety measures to involve parents, grandparents and other carers to reduce the impact of household traumas within our society.

## CONFLICT OF INTERESTS

The authors report no conflicts of interest in this work.

## ETHICAL APPROVAL

This study is part of a larger research study entitled "iCREATE: Increasing Research Capacity in Eastern Europe", which was approved by the Ethics Committee of the *Nicolae Testemitanu* State University of Medicine and Pharmacy, decision no. 43 dated 03/15/2018.

## REFERENCES

1. Peden M, Oyegbite K, Ozanne-Smith J, et al. World Report on Child Injury Prevention. Geneva: World Health Organization; 2008. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK310641/> [Accessed 31<sup>st</sup> August 2022].
2. Consumer safety unit. 24th Annual Report, Home Accident Surveillance System. London: Department of Trade and Industry, 2002.
3. Paes CE, Gaspar VL. Unintentional injuries in the home environment: home safety. *J Pediatr (Rio J)*. 2005;81(5 Suppl):S146-S154.
4. Plamadeala A, Cociu S. Home related Injuries among children under 5 years old in the Republic of Moldova. *Med Espera International Medical Congress for Students and Young Doctors*. 2022;73.
5. Rezapur-Shahkolai F, Afshari M, Moghimbeigi A, Hazavehei SMM. Home-related injuries among under-five-year children and mothers' care regarding injury prevention in rural areas. *Int J Inj Contr Saf Promot*. 2017;24(3):354-362. doi:10.1080/17457300.2016.1200628
6. Poorolajal J, Cheraghi P, Hazavehei SM, Rezapur-

- Shahkolai F. Factors associated with mothers' beliefs and practices concerning injury prevention in under five-year children, based on health belief model. *J Res Health Sci.* 2012;13(1):63-8.
7. Eldosoky RS. Home-related injuries among children: knowledge, attitudes and practice about first aid among rural mothers. *East Mediterr Health J.* 2012;18(10):1021-7. doi:10.26719/2012.18.10.1021
  8. Rezapur-Shahkolai F, Afshari M, Moghimbeigi A, Hazavehei SMM. Home-related injuries among under-five-year children and mothers' care regarding injury prevention in rural areas. *Int J Inj Contr Saf Promot.* 2017;24(3):354-362 . doi:10.1080/17457300.2016.1200628
  9. Ablewhite J, McDaid L, Hawkins A, Peel I, Goode-nough T, Deave T, et al. Approaches used by par-ents to keep their children safe at home: a qualita-tive study to explore the perspectives of parents with children aged under five years. *BMC Public Health.* 2015;15:983. doi:10.1186/s12889-015-2252-x
  10. Al-Bshri SA, Jahan S. Prevalence of home related injuries among children under 5 years old and practice of mothers toward first aid in Buraidah, Qassim. *J Family Med Prim Care.* 2021;10(3):1234-1240. doi:10.4103/jfmpc.jfmpc\_2265\_20
  11. Rutkowska A, Skotnicka-Klonowicz G. Prehospital Pain Management in Children With Traumatic In-juries. *Pediatric Emergency Care.* 2015;31(5):317-320. doi:10.1097/PEC.0000000000000313
  12. Jullien S. Prevention of unintentional injuries in children under five years. *BMC Pediatr.* 2021; (Suppl 1):311. doi:10.1186/s12887-021-02517-2

**Date of receipt of the manuscript: 31/10/2022**

**Date of acceptance for publication: 30/01/2023**

Angela CAZACU-STRATU, WoS Researcher ID: ABD-7116-2021, SCOPUS ID: 57842022800  
Svetlana COCIU, WoS Researcher ID: GNM-7830-2022, SCOPUS ID: 57841727500