Sohag University Sohag Medical Journal Faculty of Medicin

Original Article

Unintended Home Injuries in Under-5 Children in Sohag Governorate

Magda Mohamed Ali, Alaa Gamal Salem, Eman A. Mohamed *

*Department of Public Health and Community Medicine, Faculty of Medicine, Sohag University, Sohag, Egypt

Abstract:

Unintended injury was any injury that's not caused on reason or with a purpose to hurt. The home was believed to be the safest place for the child. However, home injuries can lead to permanent disability or even death making the child unable to live an active life. The aim of the current study was to assess the prevalence rate and epidemiology, to measure extent of morbidities and mortalities & to determine factors predisposing to unintended home injuries in under-5 children. An analytical cross-sectional study was conducted among 610 parents of under-5 children in Sohag governorate, during the period from September 2022 to April 2023, using a semi-structured questionnaire to collect data about socio-demographic characteristics of the study participants, characteristics of the home injury & home environmental risk factors associated with the injury. The results illustrated that (60.33%) of the study participants reported home injuries among their children. The most reported age was the age group from 1 to 2 years by (28.0%), males reported more injuries (57.6%) as compared to females, the fifth or more child was the least reported to be injured (9.5%). The most frequent injuries were fall injuries (45.1%), followed by cut wound injuries (23.6%). The study concluded that there were many factors associated with unintended home injuries in under-5 children, so these injuries could be preventable. Therefore, Health programs should be launched to overcome the risks of unintended home injuries.

Keywords: Unintended home injuries; Under-5 children

DOI : 10.21608/SMJ.2024.255474.1434

*Correspondence : alaagamal@med.sohag.edu.eg

Received: 16 December 2023.
Revised: 18 February 2024.
Accepted: 31 January 2024.
Published: 01May 2024.

Introduction:

According to the injury fact book, Oxford University Press, USA The injury was defined as "the physical damage that results when a human body is suddenly subjected to energy in amounts that exceed the threshold of physiological tolerance".[1] Unintended injuries were harms that are not knowingly or purposefully produced.[2] Moreover, unintended injuries were reported as the most frequent cause of childhood injuries, and a significant majority of them took place in or near the home.[3]

Children of low- and middle-income countries were more exposed to dangerous environments such as: open fires, unstable building sites, unprotected stairs, the absence of safe play spaces, and the lack of safe storage of chemicals.[4]

A home injury was defined as an injury that occurred at home or in its direct surroundings, and

all injuries were not occurring in traffic, vehicles, or sports.[5] Additionally, under-5 children spent most of their time at home and were more vulnerable to injuries as they tend to discover things around them.[6]

In Egypt, unintended home injuries in under-5 children frequently occurred in the home setting. Therefore, precautions should be made to protect children from the most common unintended home injuries, such as burns and falls.[7] According to demographic and health survey results, 2014; the factors predisposing to preschool injuries were child age, gender, mother‘s age at marriage, socioeconomic status, being left alone, and being left in a minor's care.[8] Also, unintended home injuries were frequently correlated with risk variables such as maternal education, birth order, and where the child resided.[9]

Furthermore, home injuries occur due to modifiable risks such as exposed electrical sockets, unlocked cupboards, unguarded/unlocked windows, wet floors, poor housing, unsafe furniture.[10] Home environmental factors like poor living conditions, poor housing, no separate area for washing or cooking, use of smoke-producing fuels, absence of cooking platforms, and lack of a safe storage area were key factors in the predisposition of childhood home injuries. These factors were the main cause of falls, burns, and poisonings at home.[11]

According to a previous study, falls were the commonest cause of injury and affected about one-third of the cases, the rate was higher among under-5 children and a majority of the injuries occurred at home thus, there was a need of more parental observation of children at home.[12]

Previous studies reported full recovery of the majority of the injured children.[13] In a rural area in India, more than half of the injured under-5 children did not require treatment or received home medications, 2 children required hospital admission and the remaining children were managed as out-patients at health facilities.[14]

Most of the unintended injuries were not dangerous enough to require an emergency department visit, and many of these injuries were underreported. So, community-based studies may give more valuable data about the true estimate of the unintended home injuries.[15]

Materials and methods:

Study type: Analytical Cross- Sectional study. **Study settings:** The study was a field study that was conducted in Sohag Governorate with the public health department and Faculty of Medicine; Sohag University campaigns for the needy Sohag villages during the study period. In addition to the two major MCH (maternal and child health care) centers in Sohag city; Salama Abdullah MCH center and the General Medical Center; both are serving a wide catchment area in Sohag district. **Study period:** The study started from first of July 2022 to June 31st, 2023. **Study population:** The study targeted under-5 children with their caregivers who were attending PHC centers in rural and urban residence of Sohag governorate. **Inclusion criteria:** The study was conducted through personal interview with caregivers of under-5 children who accepted to participate in the study. **Exclusion criteria:** 1. Caregivers who refused to participate in the study, 2. Caregivers of children who experienced intended home injuries, and 3. Caregivers of children with chronic diseases or special needs .e.g. Attention deficit Hyper-reactivity Disorder (ADHD), Down syndrome, Chronic Kidney Disease (CKD), heart disease … etc. **Sample size determination:** It was calculated according to the equation: $n=z^2\ p\ (1-\ p)\ /\ d^2$. P=prevalence of child unintended injuries is based on the average prevalence (38.7 %); from studies done at Minia (20.6%), Alqalioubya (38.3%), El-Sharqia (34.8 %) and Cairo governorates (61%). Finally, the sample included 610 caregivers of under-5 children who attended pediatric clinics in Salama Abdullah MCH center, campaigns that were made by the faculty of medicine at Sohag University for the needy villages in Sohag governorate and the pediatric clinic in Sohag university hospital. **Sampling technique:** The sample was mainly drawn during the visits to the rural villages that were conducted by Sohag University; Faculty of Medicine for providing medical services to the most needy citizens there. After taking verbal consent, an explanation of the

study was given to the caregivers, those who fulfilled the inclusion criteria were enrolled in the study. Personal interviews by the researcher were made with individuals or groups (2-4 persons), and participants were chosen by means of systematic random sampling among visitors; every 3rd or 5th child according to density and flow of attendance, and the interview to fill the questionnaire lasted for 10 to 15 minutes. (Note; Sohag Governorate is divided into 70 % rural places and 30 % urban places according to EDHS (Egypt Demographic and Health Survey), so the sample included about two-thirds rural and one-third urban participants). **Data collection:** Data were collected through personal interviews with the caregivers of under -5 children who experienced home injuries or not by using a semi-structured questionnaire adapted after two previous studies one of them was national and conducted at Ain Shams University.[16] and the other adapted after a CHASE Tool (child housing assessment for safe environment. [17] which was done at Johns Hopkins School of Public Health and modified by pilot study to co-apt with the upper Egypt housing environment, cultures, traditions, and taboos provided there. The questionnaire included 3 parts • Part 1 included socio-demographic characteristics of the studied child and his caregiver. • Part 2 included analysis of the injury • Part 3 included assessment of safety of the home environment by questions adapted after the CHASE tool from Johns Hopkins School of Public Health and child injury assessment tool from the American college of preventive medicine, regarding types of unintended home injuries. **Data analysis:** Data was analyzed and presented by the use of SPSS version 20 program for data entry and analysis, qualitative data were presented as frequencies and percentages, while quantitative data were presented as mean and standard deviation (SD), and comparable tables and figures between those who experienced home injuries and those who didn't by determinants of house environment and other socio-demographic factors based on significant P-values, P-value ≤ 0.05 is considered significant

Results:

Table (1): Relationship between the socio-demographic characteristics of the studied mothers and the exposure to home injuries.

Socio-demographic characteristics of the studied mothers	History of exposure to unintended home injury		Total	P-value
	Yes No.(%)	No No.(%)	No.(%)	
Age of the mother				
15-	3 (75.0)	1 (25.0)	4 (0.7)	
20-	44 (53.7)	38 (46.3)	82 (13.4)	
25-	119 (63.3)	69 (36.7)	188 (30.8)	
30-	104 (62.3)	63 (37.7)	167 (27.4)	0.779 **
35-	66 (57.4)	49 (42.6)	115 (18.9)	
40-	27 (58.7)	19 (41.3)	46 (7.5)	
45-50	5 (62.5)	3 (37.5)	8 (1.3)	
Mean ± SD	30.62 ±5.707	30.96 ± 5.94		0.480 ***
Median(Range)	30 (18-50)	30 (19-49)		
Maternal education				
Illiterate	21 (48.8)	22 (51.2)	43 (7.0)	
Read and write	12 (75.0)	4 (25.0)	16 (2.6)	
Primary	17 (77.3)	5 (22.7)	22 (3.6)	
Preparatory	49 (72.1)	19 (27.9)	68 (11.1)	0.008 *
Secondary/ Diploma	175 (62.3)	106 (37.7)	281 (46.1)	
University/ Post graduate	94 (52.2)	86 (47.8)	180 (29.5)	
Maternal occupation				
Not working	301 (60.3)	198 (39.7)	499 (81.8)	1.00**
Working	67 (60.4)	44 (39.6)	111 (18.2)	
Total	368 (60.3)	242 (39.7)	610 (100)	

*Chi square test **Fisher's exact test ***Independent sample t-test #Percentages are within row

As regards maternal education, the study reported that there was a statistically significant association between maternal education and the exposure to unintended home injury (P-value < 0.05).

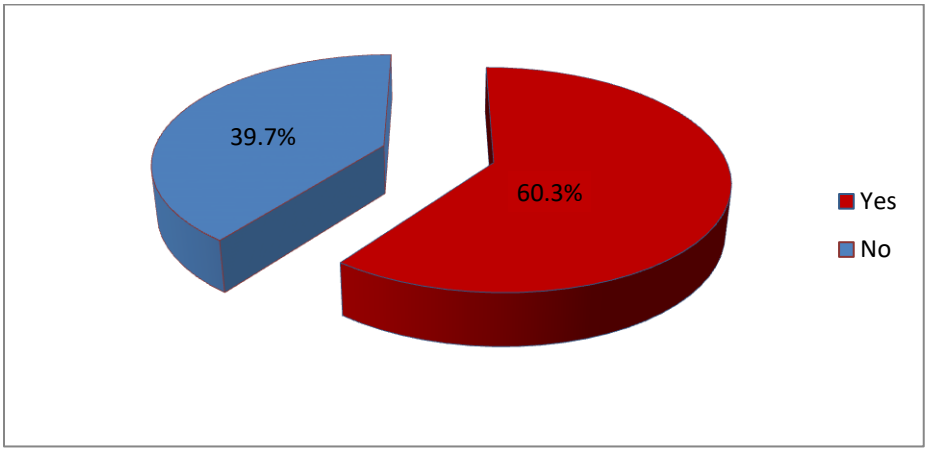

Figure (1): Prevalence of unintended home injuries in under-5 children in Sohag governorate.

Table (2): Relationship between the socio-demographic characteristics of the studied fathers and the exposure to home injuries.

Socio-demographic characteristics of the studied fathers	History of exposure to unintended home injury		Total	P-value
	Yes No.(%)	No No.(%)		
Age of the father				
20-	4 (80.0)	1 (20.0)	5 (0.8)	
25-	31 (57.4)	23 (42.6)	54 (8.9)	
30-	110 (58.2)	79 (41.8)	189 (31.0)	0.633*
35-	100 (63.7)	57 (36.3)	157 (25.7)	
40-	67 (65.0)	36 (35.0)	103 (16.9)	
45-	37 (55.2)	30 (44.8)	67 (11.0)	
≥50	19 (54.3)	16 (45.7)	35 (5.7)	
Mean ± SD	36.93 ± 6.85	37.06 ± 7.13		
Median(Range)	36 (22-65)	35 (24-61)		0.927***
Father education				
Illiterate	28 (58.3)	20 (41.7)	48 (7.9)	
Read and write	20 (64.5)	11 (35.5)	31 (5.1)	
Primary	10 (71.4)	4 (28.6)	14 (2.3)	
Preparatory	21 (60.0)	14 (40.0)	35 (5.7)	0.267*
Secondary/ Diploma secondary	189 (64.1)	106 (35.9)	295 (48.4)	
University/ Post-graduate	100 (53.5)	87 (46.5)	187 (30.7)	

Father occupation				
Not working	35 (72.9)	13 (27.1)	48 (7.9)	0.067**
Working	333 (59.3)	229 (40.7)	562 (92.1)	
Total	**368 (60.3)**	**242 (39.7)**	**610 (100)**	

*Chi square test **Fisher's exact test ***Mann-Whitney test #Percentages are within row

There was no statistically significant association between the socio-demographic characteristics of the studied fathers and the exposure to unintended home injuries (P-value > 0.05).

Table (3): Relationship between the socio-demographic characteristics of the studied families and the exposure to home injuries.

Socio-demographic characteristics of the studied families	**History of exposure to unintended home injury**		**Total**	**P-value**
	Yes No.(%)	**No No.(%)**		
Marital status of the mother				
Married	365 (60.5)	238 (39.5)		0.444**
Widowed/ Divorced	3 (42.9)	4 (57.1)		
Monthly income				
Less than 500	35 (71.4)	14 (28.6)	49 (8.0)	
500-	94 (73.4)	34 (26.6)	128 (21.0)	<0.0001*
1000-	101 (60.5)	66 (39.5)	167 (27.4)	
More than 2000	138 (51.9)	128 (48.1)	266 (43.6)	
Residence				
Urban	119 (56.4)	92 (43.6)	211 (34.6)	0.164**
Rural	249 (62.4)	150 (37.6)	399 (65.4)	
Number of children				
One	48 (50.5)	47 (49.5)	95 (15.6)	
Two	94 (53.7)	81 (46.3)	175 (28.7)	
Three	105 (63.6)	60 (36.4)	165 (27.0)	0.033*
Four	64 (68.1)	30 (31.9)	94 (15.4)	
Five	39 (69.6)	17 (30.4)	56 (9.2)	
Six	14 (73.7)	5 (26.3)	19 (3.1)	
More than six	4 (66.7)	2 (33.3)	6 (1.0)	
Mean ± SD	3.04 ± 1.41	2.64 ± 1.307		<0.0001***
Median(Range)	3 (1-9)	2 (1-7)		
Number of children under-5 years				
One	151 (52.4)	137 (47.6)	288 (47.2)	
Two	164 (65.6)	86 (34.4)	250 (41.0)	0.001**
Three	51 (72.9)	19 (27.1)	70 (11.5)	
Four	2 (100.0)	0 (0.0)	2 (0.3)	
Mean ± SD	1.74 ± 0.71	1.51 ± 0.64		<0.0001***
Median(Range)	2 (1-4)	1 (1-3)		
Who cares of the child when the mother is absent				
Grandmother	288 (58.7)	203 (41.3)	491 (80.5)	
Other children	50 (64.1)	28 (35.9)	78 (12.8)	
Father	11 (64.7)	6 (35.3)	17 (2.8)	0.192*
Relatives	19 (79.2)	5 (20.8)	24 (3.9)	
Total	368 (60.3)	242 (39.7)	610 (100)	

*Chi square test **Fisher's exact test ***Mann-Whitney test #Percentages are within row

As regards the monthly income of the studied families, there was a highly statistically significant association between the monthly income of the families and the exposure to unintended home injuries in under-5 children (P-value < 0.0001). In addition, there was a highly statistically significant association between the total number of children in the family and the exposure to home injuries (P-value < 0.0001). Moreover, there was a highly statistically significant association between the number of under-5 children and the exposure to home injuries (P-value < 0.0001).

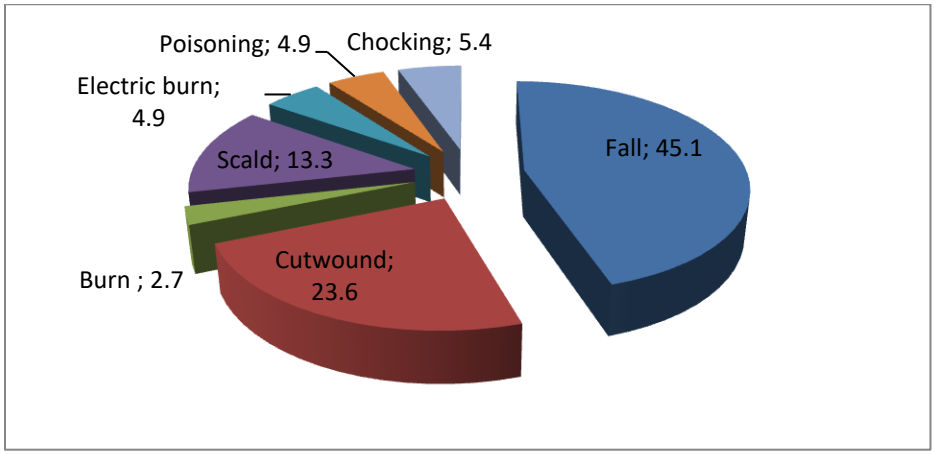

Figure (2): Types of unintended home injuries in under-5 children in Sohag governorate.

Table (4): Characteristics of the home injured under-5 children.

Characteristics of the injured children	No.	Percentage(%)
Child age in months		
1-	50	13.6
13-	103	28.0
25-	97	26.4
37-	83	22.6
49-60	35	9.5
Mean ± SD	33.56 ± 14.81	
Median (Range)	36 (6-60)	
Child gender		
Male	212	57.6
Female	156	42.4
Place of injury		
Kitchen	56	15.2
Bathroom	10	2.7
Living room	149	40.5
Children's bedroom	14	3.8
Adult's bedroom	82	22.3
Stairs	57	15.5
Admission to the hospital		
Yes	38	10.3
No	330	89.7
Outcome of the injury		
Complete recovery	260	70.7
Under treatment with no long term consequences	59	16.0
	47	12.8
Disabled	2	0.5

Psychological trauma		

The most reported age of unintended home injury was the age group from 1 to 2 years, followed by the age group from 2 to 3 years. The least reported age group of injured under-5 children was from 4 to 5 years. More than half of the injured under-5 children (57.6%) were males. As regards rank of the injured under-5 children, the second child was the most reported to be injured followed by the first one and the fifth or more child was the least reported to be injured. The living room was the most reported place of injury, the majority of cases (89.7%) were not admitted to the hospital. More than two-thirds of the cases were completely recovered and (12.8%) were disabled .

Table (5): Final model of logistic regression to determine home environmental risk factors affecting unintended home injuries.

Variables	OR (95%CI)	P-value
Elimination of all electrical fire and/or shock hazards	1.837 (1.158-3.030)	0.011
Safety of furniture edges	2.240(1.566-3.202)	<0.0001
Holding the child while cooking	1.584(1.117-2.245)	0.010
Keeping these types of toys eg. (Small Balls/Spherical Toys, Beads, Button-Shaped Batteries and rubber erasers) in the house	2.125 (1.340-3.368)	0.001
Giving the child these types of foods (round or hard foods, like nuts, popcorn, hot dogs, grapes, seeds, or hard candy)	1.716 (1.176-2.503)	0.005

There is a statistically significant association between elimination of all electrical fire hazards, safety of furniture edges, and holding the child while cooking and the occurrence of unintended home injuries with odds ratio of (1.837), (2.240) and (1.584), respectively. Regarding choking hazards, there is a statistically significant association between keeping small spherical toys in the house and giving the child round or hard foods with the occurrence of unintended home injuries with odds ratio of (2.125) and (1.716), respectively (P-value < 0.05).

Discussion:

In every medical appointment, mothers and other caregivers for children should get information on health promotion programs about unintended injuries prevention. Under-5 children should be the primary focus of family support programs. Also, the mass media has a major role to play in raising health awareness and preventing unintended child home injuries.[18]

As illustrated by our study, the prevalence of unintended home injuries in under-5 children in Sohag governorate among studied 610 caregivers of under-5 children was (60.3%), the results of the current study are in agreement with a cross-sectional study conducted by **H. O. Mohammed et al** who revealed that the prevalence of unintended home injuries among studied 200 mothers in Cairo governorate was (61%).[16] In addition, these results agree with **Abdelsalam et al** who stated that the prevalence of unintended home injuries was (69.3%) in Alqalioubiya Governorate, Egypt.[5]

However, the results of the current study are much higher than the community-based cross-sectional survey conducted by **Kamal** in a rural area in El-Minia, Egypt, and only (20.6 %) of the enrolled under-5 children reported unintended home injuries.[7] This may be due to differences in the sample size and methodology.

As regards the present study, there is no statistically significant difference between the injured and non-injured children regarding parental age (P-value > 0.05). The results of the current study don‘t agree with **Moshiro et al** who conducted a

cross-sectional study and revealed that young maternal age was associated with higher chances of their children (2 folds) to be injured as compared to older mothers in Tanzania.[19] The results of the current study aren't in line with **Z. Mohammed et al** who surveyed in Egypt, the survey reported that the younger age of the mother was associated with higher frequency of childhood injuries.[8]

The present study illustrates that there is a statistically significant difference between the injured and non-injured children regarding education of the mothers, as the level of maternal education increased there was a statistically significant decrease in the occurrence of unintended home injuries in under-5 children (P-value ≤ 0.05). However, in contrast to our results, **Halawa et al** and **Alkhamis & Abdulkader** reported that higher rates of unintended injuries were associated with the high education of the mothers in Egypt and Saudi Arabia, respectively.[20, 21]

The current study demonstrates that, there is no statistically significant difference between the injured and non-injured children regarding parental occupation (P-value > 0.05). The results of the current study aren't in line with **Halawa et al** and **Tiruneh et al** who reported that childhood injuries were statistically significantly higher with working mothers as compared to non-working ones.[20, 22]

As regards the monthly income of the studied families, there was a statistically significant difference between the injured and the non-injured children (P-value ≤ 0.05), as children who reported more unintended home injuries whose families had lower income as compared to non-injured children. Similar findings to our results were reported by **Z. Mohammed et al** and **Kamal** who reported that children whose households were of low income, were more frequently associated with unintended injuries as compared to other wealthier children .[8, 7] This may be due to similarities of the socio-economic status between the studied Egyptian rural children. However, in contrast to the results of the current study, **Sato et al** reported that socioeconomic factors were unrelated to unintended home injuries in Japan.[23]

As regards the present study, there is no statistically significant difference between the injured and the non-injured children in the residence (P-value > 0.05). The results of the current study are similar to **Stewart et al** who revealed that there were no differences in the rates of childhood home injuries between urban and rural communities in a comparative study of home injuries between urban and rural communities in Ghana.[24]

The current study illustrates that the families who reported unintended home injuries in under-5 children had a higher total number of children as compared to those who didn't (P-value ≤ 0.05). In addition, there was a statistically significant difference regarding the number of under-5 children between the two groups (P-value ≤ 0.05). The same results obtained by **Abdelsalam et al** who reported that overcrowding was highly associated with unintended home injuries in Alqalioubiya Governorate, Egypt.[5]

As illustrated by the results of the current study, the most frequent unintended home injuries in under-5 children in Sohag governorate were falls with a percentage of (45.1%), followed by cut wounds (23.6%). Similar findings to our results were reported by **H. O. Mohammed et al** who revealed that falls were the most frequent type of unintended home injuries in under-5 children, as it affected one-third of the children (33.6%) followed by cut wounds (13.9%) in Cairo, Egypt.[16] However, **Nageh et al** reported that cut wounds were the most frequent type of unintended home injuries as it affected (41.3%) of the under-5 children followed by falls in Mansoura, Egypt.[25]

As illustrated in the current study more than two-thirds of the cases completely recovered (70.7%), (16.0%) were under treatment with no long-term consequences and (12.8%) were disabled. These results are in line with **El-Sayed et al** who conducted a study to determine the pattern and severity of unintended childhood injuries in Ismailia City, Egypt, and reported that the majority of the injured children were fully recovered, (7.4%) had a temporary disability and (1.9%) had a permanent disability.[26]

The reported home environmental safety measures that associated with unintended home injuries were presence of electrical shock hazards, unsafe edges of the furniture, holding the child while cooking,

keeping small spherical toys in the house and giving the child small rounded foods, nearly similar results were reported by **H. O. Mohammed et al** who revealed that there was a significant association between five environmental risk factors and occurrence of specific types of unintended home injuries; the availability of vitamins and pharmaceuticals within children's reach, the availability of cleaning supplies within children's reach, exposed electrical outlets that children may access, the holding of children while cooking, and the provision of round, hard, and little food to children.[16]

References:

1. **Baker, S. P., O'Neill, B., Li, G. G., & Ginsburg, M. J. (1992).** The injury fact book 2nd ed. New York: Oxford University Press, USA. http://pi.lib.uchicago.edu/1001/cat/bib/11212676

2. C**hen, Y., Mo, F., Yi, Q. L., Jiang, Y., & Mao, Y. (2013).** Unintentional injury mortality and external causes in Canada from 2001 to 2007. Chronic Dis Inj Can, 33 (2), 95-102. https://doi.org/10.24095/hpcdp.33.2.06

3. **Al-Bshri, S. A., & Jahan, S. (2021).** 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, 10 (3), 1234-1240. doi:10.4103/jfmpc.jfmpc_2265_20

4. **Sethi, D., Aldridge, E., Rakovac, I., & Makhija, A. (2017).** Worsening Inequalities in Child Injury Deaths in the WHO European Region. Int J Environ Res Public Health, 14 (10). doi:10.3390/ijerph14101128

5. **Abdelsalam, T., Habib, N., & Shenouda, M. (2021).** Assessment of risk factors for domestic accidents among rural children, Alqalioubiya Governorate, Egypt. Egyptian Nursing Journal, 18 (1), 21-27. doi:10.4103/enj.enj_15_21

6. **Temsah, M. H., Aljamaan, F., Alhaboob, A., Almosned, B., Alsebail, R., Temsah, R., Al-Eyadhy, A. (2022).** Enhancing parental knowledge of childhood and adolescence safety: An interventional educational campaign. Medicine (Baltimore), 101 (3), e28649. doi:10.1097/md.0000000000028649

7. **Kamal, N. N. (2013).** Home unintentional non-fatal injury among children under 5 years of age in a rural area, El Minia Governorate, Egypt. J Community Health, 38 (5), 873-879. doi:10.1007/s10900-013-9692-y

8. **Mohammed, Z., Aledhaim, A., AbdelSalam, E. M., El-Setouhy, M., El-Shinawi, M., & Hirshon, J. M. (2020).** Factors associated with injuries among preschool children in Egypt: demographic and health survey results, 2014. BMC Public Health, 20 (1), 595. doi:10.1186/s12889-020-08658-w

9. **Nouhjah, S., S, R. N. K., & Saki, A. (2017).** Risk factors of Non-fatal Unintentional Home Injuries among Children under 5 Years Old; a Population-Based Study. Emerg (Tehran), 5 (1), e6. DOI: 10.22037/emergency.v5i1.10125

10. **Punyadasa, D., & Samarakkody, D. (2016).** 696 Community based study on family related contributory factors for childhood unintentional injuries in an Urban setting of Sri Lanka. Injury Prevention, 22 (Suppl 2), A250-A250. doi:10.1136/injuryprev-2016-042156.696

11. **Nooyi, S. C., Sonaliya, K. N., Dhingra, B., Roy, R. N., Indumathy, P., Soni, R. K., Kumar, B. S. N. (2021).** Descriptive Epidemiology of Unintentional Childhood Injuries in India: An ICMR Taskforce Multisite Study. Indian Pediatr, 58 (6), 517-524.

12. **Onyemaechi, N. O., Bisi-Onyemaechi, A. I., & Nduagubam, O. C. (2020).** Epidemiology and pattern of paediatric injuries in a developing country: an analysis of 170 injuries. Malawi Med J, 32 (2), 95-100. doi:10.4314/mmj.v32i2.7

13. **Gad, A., Al-Eid, R., Al-Ansary, S., Saeed, A. b., & Kabbash, A. (2011).** Pattern of injuries among children and adolescents in Riyadh, Saudi Arabia: a household survey. Journal of tropical pediatrics, 57 (3), 179-184. doi: 10.1093/tropej/fmq073.

14. **Banerjee, S., Paul, B., Bandyopadhyay, K., & Dasgupta, A. (2016).** Domestic unintentional injury of 1 to 5-year-old children in a rural area of West Bengal, India: a community-based study. Tanzania Journal of Health Research, 18 (3). doi:10.4314/thrb.v18i3.6

15. **Parmeswaran, G. G., Kalaivani, M., Gupta, S. K., Goswami, A. K., & Nongkynrih, B. (2017).** Unintentional Childhood Injuries in Urban Delhi: A

Community-Based Study. Indian J Community Med, 42 (1), 8-12. doi:10.4103/0970-0218.199791

16. **Mohammed, H. O., Wassif, G. O., Hakim, S. A., & Moustafa, M. E. (2019).** Frequency of unintentional home injuries in children under five years and its relation with environmental risk factors, Cairo, Egypt. Egypt J Community Med, 37 (3). doi: 10.21608/ejcm.2019.43376

17. **Shields WC, Gielen AC, Frattaroli S, Musci RJ, McDonald EM, Van Beeck EF, Bishai DM. Child Housing Assessment for a Safe Environment (CHASE):** a new tool for injury prevention inside the home. Inj Prev. **2020** Jun;26 (3):215-220. https://doi.org/10.1136/injuryprev-2018-043054

18. **Akturk, Ü., & Erci, B. (2016).** Determination of Knowledge, Attitudes and Behaviors Regarding Factors Causing Home Accidents and Prevention in Mothers with a Child Aged 0-5 Years. Journal of education and practice, 7 (18), 142-153. ERIC_EJ1105879

19. **Moshiro, R., Furia, F. F., Massawe, A., & Mmbaga, E. J. (2021).** Pattern and risk factors for childhood injuries in Dar es Salaam, Tanzania. Afr Health Sci, 21 (2), 817-825. doi:10.4314/ahs.v21i2.42

20. **Halawa, E. F., Barakat, A., Rizk, H. I., & Moawad, E. M. (2015).** Epidemiology of non-fatal injuries among Egyptian children: a community-based cross-sectional survey. BMC Public Health, 15, 1248. doi:10.1186/s12889-015-2613-5

21. **Alkhamis, K. N., & Abdulkader, R. S. (2020).** Assessment of unintentional childhood injuries and associated factors in the pediatric clinics of a tertiary care hospital in Riyadh, Saudi Arabia. J Family Community Med, 27 (3), 168-177. doi:10.4103/jfcm.JFCM_75_20

22. **Tiruneh, B. T., Bifftu, B. B., Anlay, D. Z., Yismaw, Y. S., Tesfaye, E., & Dachew, B. A. (2017).** Factors associated with unintentional injury among the paediatric age population in the hospitals of Amhara National Regional State, Ethiopia. Afr J Emerg Med, 7 (Suppl), S55-s59. doi:10.1016/j.afjem.2017.08.008

23. **Sato, N., Hagiwara, Y., Ishikawa, J., & Akazawa, K. (2018).** Association of socioeconomic factors and the risk for unintentional injuries among children in Japan: a cross-sectional study. BMJ Open, 8 (8), e021621. doi:10.1136/bmjopen-2018-021621

24. **Stewart, B., Gyedu, A., Otupiri, E., Nakua, E., Boakye, G., Mehta, K., Mock, C. (2021).** Comparison of childhood household injuries and risk factors between urban and rural communities in Ghana: A cluster-randomized, population-based, survey to inform injury prevention research and programming. Injury, 52 (7), 1757-1765. doi:10.1016/j.injury.2021.04.050

25. **Nageh, H. M., El-Raouf, A., Samar, E., El-Mouty, A., & Samia, M. (2020).** MOTHERS'KNOWLEDGE AND SUBJECTIVE PRACTICE TOWARD MOST COMMON DOMESTIC INJURIES AMONG UNDER-FIVE CHILDREN. Mansoura Nursing Journal, 7 (1), 19-35. doi: 10.21608/MNJ.2020.175751

26. **El-Sayed, H., Zekry, O., Abbas, H., Hamid, S. A., & Hyder, A. (2012).** Pattern and severity of childhood unintentional injuries in Ismailia city, Egypt. African Safety Promotion: A Journal of Injury and Violence Prevention, 10 (2), 18-27. http://www.ajol.info/index.php/asp/article/view/12005410.4314/asp.v10i2.