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The Epidemiology of Unintentional Home Injuries among Children Aged 0 – 14 Years in Assiut Governorate, Egypt: A Community-Based Cross-Sectional Study

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Abstract: Background: The change in the epidemiological pattern of child mortality, the significant progress in combating infectious diseases and the increased risk of injuries to create a new vision for the rate of childhood injuries and deaths around the world because of the serious risk it poses, with injuries killing 5 million people each year, And that most of these injuries occur in and around the home where children spend at this age stage most of their time at home. So I focused in this research on this age stage in one of the largest governorates of Upper Egypt, which is Assiut.

Objective: To study the magnitude and pattern of unintentional home injuries in children aged 0 – 14 years and to assess the environmental risk associated with home injuries.

Methods: A community-based, cross-sectional study was conducted in 2018, on a rural population in Assiut governorate, Egypt. The total sample of children was selected from 500 households by systematic random sampling. Data were gathered using a predesigned, well-structured questionnaire from both the parents and children.

Results: Of 1337 children, the prevalence of home injury was found to be 43.8% in the last 1 year, significantly higher in the age group of 1 – 3 years(60%) followed by 5 – 10 years(45.7%). The total number of injuries and the average number of injuries in boys were significantly higher than girls. The most common type of home injury was falls(54.6%) followed by burn injury(16.1%) and injury with sharps(11.8%).The environmental risk was assessed using standard and working definitions and found unsafe electrical points(97%), unsafe stairs(100%), unsafe short dining table(72%), unsafe kitchen with access to sharps(27.6%), access to active fire(23.6%), and unsafe furniture and objects(22%).

Conclusions: The childhood unintentional home injuries are common in Upper Egypt. The total number of injuries and the average number of injuries in boys were significantly higher than girls. The falls were the most common type of injury among all age groups. The study revealed a significant burden of hazards for childhood injuries within their own homes.

Recommendations: Implementation of safety and injury prevention measures that may involve legal changes, application of passive safety strategies, educating the parents and the children at schools, and financial support to poor families are important strategies for prevention of home injuries.

Keywords: Children, home, unintentional injuries, Assiut governorate

وبائيات الإصابات المنزلية غير المتعمدة بين الأطفال منذ الولادة وحتى سن الرابعة عشر في محافظة أسيوط، مصر: دراسة مجتمعية مستعرضة

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الملخص: الخلفية: إن التغير في النمط الوبائي لوفيات الأطفال والتقدم الكبير فى مكافحة الأمراض المعدية وزيادة خطر الإصابات ليخلق رؤية جديدة لمعدل إصابات ووفيات الأطفال حول العالم لما تمثله من خطر جسيم حيث تتسبب الإصابات في قتل5 مليون شخص كل عام وأن معظم هذه الإصابات يقع داخل وحول نطاق المنزل حيث يقضى الأطفال في هذه المرحلة العمرية أكثر وقتهم بالمنزل. لذا ركزت في هذا البحث على هذه المرحلة العمرية في واحده من أكبر محافظات صعيد مصر وهي أسيوط.

الهدف: دراسة حجم ونمط الإصابات المنزلية غير المقصودة في الأطفال الذين تتراوح أعمارهم بين 0 و 14 عامًا وتقييم المخاطر البيئية المرتبطة بالإصابات المنزلية.

الأساليب: أجريت دراسة مجتمعية مستعرضة في عام 2018، على سكان الريف في محافظة أسيوط، مصر. تم اختيار العينة الإجمالية للأطفال من 500 أسرة عن طريق أخذ عينات عشوائية منهجية. تم جمع البيانات باستخدام استبيان محدد سلفا ومنظم من كل من الآباء والأمهات والأطفال.

النتائج: من بين 1337 طفلاً، وجد أن معدل الإصابة في المنزل بلغ 43.8% في العام الماضي، وهو أعلى بكثير في الفئة العمرية من 1 إلى 3 سنوات (60%) تليها 5-10 سنوات (45.7%). كان إجمالي عدد الإصابات ومتوسط عدد الإصابات لدى الأولاد أعلى بكثير من البنات. كان أكثر أنواع الإصابات المنزلية شيوعًا هو السقوط (54.6%) يليه الإصابة بالحروق (16.1%) والإصابة بالأدوات الحادة (11.8%)، وتم تقييم الخطر البيئي باستخدام تعريفات قياسية وعملية ووجد نقاط كهربائية غير آمنة (97%)، السلالم غير الآمنة (100%)، طاولة طعام غير آمنة قصيرة (72%)، مطبخ غير آمن مع إمكانية الوصول إلى الأدوات الحادة (27.6%)، الوصول إلى النيران النشطة (23.6%)، والأثاث والأشياء غير الآمنة (22%).

الاستنتاجات: إن إصابات الأطفال المنزلية غير المقصودة شائعة في صعيد مصر. كان إجمالي عدد الإصابات ومتوسط عدد الإصابات لدى الأولاد أعلى بكثير من البنات. كان السقوط أكثر أنواع الإصابات شيوعًا بين جميع الفئات العمرية. كشفت الدراسة عن وجود عبء كبير من أخطار إصابات الطفولة داخل منازلهم.

التوصيات: يعد تنفيذ تدابير السلامة والوقاية من الإصابات التي قد تنطوي على تغييرات قانونية، وتطبيق استراتيجيات السلامة السلبية، وتثقيف الآباء والأمهات والأطفال في المدارس، والدعم المالي للأسر الفقيرة، استراتيجيات مهمة للوقاية من الإصابات المنزلية.

الكلمات المفتاحية: الأطفال، المنزل، الإصابات غير المقصودة، محافظة أسيوط.

INTRODUCTION

Alterations in epidemiological pattern of childhood mortality, progress in control of infectious diseases, and increased risk of injuries have created a new view of child mortality and morbidity in the world (Harvey et al., 2009). Injuries are an important public health problem in the world, causing 5 million deaths every year. Among those, unintentional injury accounts for nearly 80% of the injury deaths (3.9 million deaths) (WHO, 2004). In addition to the annual mortality rate, injury may result in temporary or permanent disability and requires medical attention and continuous care in millions of children (de Sousa et al., 2010). Nearly $1/4^{th}$ of the total unintentional injury deaths (0.8 million) occurred in children aged ≤ 18 years, mostly in the low- and middle-income countries (Murray & Lopez, 1997 and Deen et al., 1999). Unintentional injuries may influence health, education, and family economy of the affected children (de Sousa et al., 2010). It is seen that most of the childhood unintentional injuries take place in and around the home as children spend most of their time at home (WHO – EURO, 2009). The type, the cause, and the outcome of injury vary within populations and across countries. Though everyone is at risk of injuries, children are more susceptible because of their age, gender, curiosity, and risk-taking behavior (Peden et al., 2008). The hazards responsible for injuries at home include unsafe building designs (stairs and windows without safety grills), unsafe furnishings, unsafe packaging and storage of toxic materials (access

to poisonous substances and pesticides and medicines), open water containers, and unsafe kitchen (access to stoves and knives) (WHO – EURO, 2009). Home injuries are underreported and have not been recognized to the same extend as road traffic injuries. The present study was done to study the profile of home injuries and assess the environmental risk associated with home injuries.

MATERIALS AND METHODS

Study design

This was a community-based, cross-sectional study.

Study area

The study was carried out in El-Zawia village, Assiut governorate, Egypt.

Study period

The study was conducted from January 1 to December 31, 2018.

Study population

The study population comprised of children aged 0 – 14 years, of both sexes residing in the area.

Sample size

The sample size was calculated using the formula $n= 4pq/l^2$ (Bhuvanesware et al., 2018).when n= 4 × 50 × 50 / 25 =10000 / 25 = 400, design effect = 1.25 (as systematic random sampling was used), total sample size = 1.25 × 400 = 500, the prevalence (Halawa et al., 2015) p = 50% and q = 50% (100 – p), allowable error (l) = 5%, confidence interval: 95%, power: 80%.

Hence, the sample size was calculated to be 500.

Assiut governorate is one of the Upper Egypt governorates, and is about 370 km to the south of Cairo. By a multistage random sample, Assiut governorate was found to be divided into 10 districts from which Assiut district was chosen randomly (first stage) then it was found to be divided into 30 villages from which one village was chosen; El-Zawia (second stage) which was divided into eight blocks from which the second, third, and seventh blocks were chosen randomly (third stage). It has a population of 53.742. A systematic random sample was taken (the first house, no.3, was chosen randomly, then we entered every third house, i.e. no.6, no.9, etc.) until the blocks were completed. Sampling unit was household and study units were children aged 0 – 14 completed years in the selected houses. A house-to-house survey was conducted in the 500 households and the population surveyed was 4249, of which 1337 (31.5%) were children of 0 – 14 years. When there was more than one child in a household, all were included in the study. Both the parents (mother/father/caretaker) and the child (wherever possible) were interviewed after taking written informed consent from the parents and assent from the children. Data

were gathered by ten health visitors who were trained by the principal investigator in how to collect data and manage the specific challenges and difficulties encountered in the study. Data were gathered using a predesigned, well-structured questionnaire which was pretested in 10% of the sample in another location. It was designed using "WHO guideline for external injury" and confirmed through a study conducted in Egypt (Halawa, et al., 2015).

History of home injury (only unintentional) or death of any child in the family following injury in the last 1 year was taken to include all major childhood injuries/hospitalizations/deaths.

Intentional injuries and road traffic injuries were excluded. Respondents who had children with unintentional injuries more than 1 year period prior to being interviewed were excluded. Respondents more than 80 years old were excluded from the analysis because of concerns regarding ability to reliably respond to and interpret questions. All households who didn't live in the same dwelling space and acknowledge a common household head were also excluded.

Ethical approval for the study was obtained from Ethical Review Committee of Assiut University, Egypt.

The following locations were examined and observed for risk area assessment in the home environment of the child using working and standard definition (table 1) (Bhuvanesware, et al., 2018).

Table (1) Risk factor assessment in home environment

Risk area in the home environment	Considered unsafe when
General/living area*	
Unsafe electric points	Electric points in reach, no safety plugs, and presence of hanging wires
Overcrowding	Square feet space available per person
Unsafe short dining table (GadAllah, 2018)	Height is < 90cm
Presence of unsafe furniture or objects	Furniture with sharp edges and presence of objects such as bead, button, coin, cotton, paper, and plastic in reach of children
Medicines and chemicals within reach	Presence of tablets and syrups and presence and storage of chemicals for cleaning floor and toilets
Slippery floor	Presence of water in the floor
Kitchen*	
Access to sharps	Presence of sharps such as knife, blade, razor, glass, and sharp utensils
Access to fire/inflammable fuel	Burning LPG or kerosene stove, burning firewood/candles/lamp, containers with kerosene in the reach of child
Kitchen in living room	Cooking place in the living room
Bathroom and toilets*	

Unsafe system for warming water	Electric rod, use of firewood for warming water
Unsafe storage of water in containers	Water stored in large mouth containers without lids
Slippery floor	Presence of water in the floor
Doors	
Unsafe doors	Height of the door is < 200cm and width is < 100cm
Stairs	
Unsafe	Presence of stairs and when the height of the stair is >19cm, width is <1m, width of tread is <25cm, no grill bars, and inadequate lighting
Balcony	
Unsafe	Presence of balcony whose height of the Parapet wall is <5 ft
Terrace	
Unsafe	Presence of terrace and when the height of the parapet wall is <5ft and any items stored that can cause injury

*Working definitions, for doors, balcony, stairs, and terrace standard definitions were used, LPG: Liquefied petroleum gas

Outcome variables

Primary outcome

The primary outcome was the proportion of children with home injuries and type of home injuries.

Secondary outcome

The secondary outcome included environmental risk factors for injuries as follows: living area, overcrowding, kitchen, bathroom, stairs, pets and stray animals, electric circuits, and drain.

STATISTICAL ANALYSIS

All data were entered into a Microsoft Access database. Data were analyzed using SPSS Version 12 (SPSS Inc, SPSS for Windows, Version 12.0 Chicago). The qualitative variables were expressed in proportion and quantitative variables were summarized by mean and standard deviation. The difference in proportion was analyzed by applying Chi-square test and Fisher's exact test and $p<0.05$ was taken as the cutoff for commenting statistically significant association. The difference in mean was analyzed statistically by applying unpaired Student's t-test and $p<0.05$ was taken as the cutoff for commenting statistically significant association.

RESULTS

Table 2 shows that out of the 1337 children aged 0 – 14 years studied, 54.2% (n=725) were males and 45.8% (n=612) were females. The highest proportion of the study participants belong to the age groups < 5 years (49.3%) followed by the age group of 5 – 10 years (36.6%) and 10 – 14 years (14.1%) (not shown in table). About 43.8% had suffered injury in the last year, with the highest proportion of children injured in the age group of 1 – 3 years (60%) followed by 5 – 10 years (45.7%) which was statistically significant (p = 0.032). The average number of injuries among male children was significantly (p = 0.013) higher than female children and so is the total number of injuries in both the groups (p = 0.001).

Table (2) Magnitude of home injury in children according to age and sex (n=1337)

	Total number of children of different age groups and sex					
	0 – 1 (infant)	1 – 3 (toddler)	3 – 5 (preschool)	5 – 10 (school)	10 – 14 (adolescent)	Total (%)
Home injury in children						
Injury suffered	21(18.3)	183(60)	86(36)	224(45.7)	60(31.9)	585(43.8)
Injury not suffered	94(81.7)	122(40)	153(64)	266(54.3)	128(68.1)	752(56.2)
Total (%)	115(8.6)	305(22.8)	239(17.9)	490(36.6)	188(14.1)	1337(100)
Home injuries with age	$\chi^2 = 21.603$, df = 3					

	Male (%)	Female (%)	Total (%)
Injuries in children			
Suffered	376(51.9)	209(34.2)	585(43.8)
Total number of injuries	403(59.4)	275(40.6)	678(100)
Average number of injury per child	0.56	0.45	0.51
Average number of injuries and sex of the child	Unpaired Student's t-test p= 0.013		
Injuries suffered and sex of the child	$\chi^2 = 5.026$, p= 0.001, df= 1		

Table 3 shows that the most common injury was falls followed by burns/scalds, injury with sharps, poisoning, animal bite/human bite, foreign body ingestion, and other injury (crush injury, injury with heavy objects, chocking, and sunstroke). The most common injury in both groups was falls with 59.3% and 47.6%, respectively. The order of type of injuries was found to be significantly different in both the groups (p= 0.006). The most common place of home injury was inside home for both sexes and the most common inside home was in the living room (56.8%), followed by stairs (19.3%). The most common place of injury outside home was play area (74.8%), followed by courtyard (25.2%). Most of the injuries occurred in summer 43.5% (n= 295), winter 27.4% (n= 186), autumn 17.4% (n= 118), and spring 11.7% (n= 79) (not shown in table).

Table (3) Pattern of home injury (n= 678)

	Male (%)	Female (%)	Total (%)
Type of home injury			
Falls	239(59.3)	131(47.6)	370(54.6)
Burns/scalds	62(15.4)	47(17.1)	109(16.1)

Injury with sharps	44(10.9)	36(13.1)	80(11.8)
Poisoning	22(5.5)	20(7.3)	42(6.2)
Animal bite/human bite	9(2.2)	14(5.1)	23(3.4)
Foreign body ingestion	5(1.2)	8(2.9)	13(1.9)
Other injury*	22(5.5)	19(6.9)	41(6)
Total	403(100)	275(100)	678(100)
Type of home injury with sex	χ^2 = 22.091, p= 0.006, df= 3		
Pattern of injuries			
Place of occurrence			
Inside home	253(62.8)	186(67.6)	439(64.7)
Outside home	150(37.2)	89(32.4)	239(35.3)
Time of occurrence			
Morning	88(21.8)	44(16)	132(19.5)
Afternoon	196(48.6)	145(52.7)	341(50.3)
Evening	105(26.1)	81(29.5)	186(27.4)
Night	14(3.5)	5(1.8)	19(2.8)

*(crush injury, injury with heavy objects, chocking, and sunstroke).

Table 4 shows that the majority of the households had unsafe electric points (97%). About three-fourth, 72% of the households had unsafe short dining table. Majority, i.e., 99.4% (n= 497) of them used liquefied petroleum gas and electric stove 0.6% (n= 3) as a source of fuel for cooking (not shown in table). The main risks identified in the kitchen were lack of fire extinguisher (97.2%), access to active fire (23.6%), access to sharps (27.6%), and presence of kitchen in the living room (20.4%). Slippery floor in the bathroom was observed in 44.4% of the households. More than half 54% (n= 270) of the households used electric heater, 30.8% (n= 154) used stove, 10.8% (n= 54) used firewood, 3.4% (n= 17) used gas heater, and 1% (n= 5) used electric rod as a water warming system (not shown in table). Majority, i.e., 76.6% (n= 383) of the households had wooden doors and 23.4% (n= 117) had iron doors. 40% of the households didn't have the height and width as per recommendations. Stairs were present in 89.6% of the households, and all the stairs were not safe as they were either steep or narrow, didn't have a stair gates, and didn't have width and height as per the recommended measures. Eighty percentages of the balconies were not appropriate as they didn't have the recommended height of parapet wall. Presence of stairs, balcony, and terrace was considered unsafe. Cuts/scrapes 47.9% (n= 325/678) and bruises 26.4% (n= 179/678) were the most common outcomes of the injuries. Medical care was sought for the majority of the injuries 56% (n= 380/678); 26.7% of the injuries (n= 181) didn't require any medical care while 17.3% of the injuries (n= 117) required hospitalization. The most common body part affected was the head 34.7% (n= 235). None of the households had previously received information on home injuries preventive strategies (not shown in table).

Table (4) Risk profile of home environment of children (domestic) (n= 500)

Description of risk area in home environment	Number of households (%)
General/living area	
Unsafe electric points	485(97)
Unsafe short dining table	360(72)

Presence of unsafe furniture and objects	110(22)
Medicines/chemicals within reach	95(19)
Overcrowding	69(13.8)
Slippery floor	41(8.2)
Kitchen	
Lack of fire extinguisher	486(97.2)
Access to active fire	118(23.6)
Access to sharps	138(27.6)
Kitchen in living room	102(20.4)
Access to fuel containers	66(13.2)
Bathroom and toilets	
Slippery floor	222(44.4)
Unsafe system for warming water	230(46)
Unsafe storage of water in containers	92(18.4)
Shampoos/soaps/acids within reach	79(15.8)
Doors	
Unsafe doors	200(40)
Stairs (n= 448)	
Unsafe	448(100)
Without gates	448(100)
Inadequate lighting	182(40.6)
Balcony (n= 291)	
Unsafe	234(80.4)
Terrace (n= 372)	
Unsafe	151(40.6)

Table 5 shows that there were a significant association of falls with slippery floor ($p < 0.001$), and unsafe stairs ($p= 0.009$), burns/scalds with unsafe kitchen ($p= 0.002$), access to active fire ($p= 0.002$), and unsafe short dining table ($p= 0.007$), injury with sharps and access to sharps ($p < 0.001$).

Table (5) Environmental risk factors associated with home injury

Environmental factors	Present	Not present	p
Fall in children			
Slippery floor (n= 263)	48(18.3)	215(81.7)	< 0.001
Unsafe stairs (n= 448)	62(13.8)	386(86.2)	0.009
Overcrowding (n= 69)	2(2.9)	67(97.1)	0.531
Burns/scalds in children			
Unsafe kitchen (n= 102)	13(12.7)	89(87.3)	0.002
Unsafe short dining table (n= 360)	47(13.1)	313(86.9)	0.007
Access to active fire (n= 118)	15(12.7)	103(87.3)	0.002
Access to fuel (n= 66)	2(3)	64(97)	0.423
Access to electric appliances/points (n= 485)	11(2.3)	474(97.7)	0.731
Injury with sharps in children			
Unsafe kitchen (n= 102)	5(4.9)	97(95.1)	0.251
Access to sharps (n= 138)	25(18.1)	113(81.9)	< 0.001

DISCUSSION

Every day around the world, more than 2000 families are suffering by the loss of a child to an unintentional injury or the so-called "accident" that could have been prevented. Child injuries have been neglected for many years and are largely absent from child survival initiatives presently on the global agenda (Bhuvanesware et al., 2018). In this study (table 2), male children were more than female children, which is similar to other studies (Halawa et al., 2015; Tripura et al., 2015; Zhu et al., 2012; Mutto et al., 2011). The highest proportion of children was in the age group of 5 – 10 years (36.6%), which was similar to other studies (Mutto et al., 2011; Saadat et al., 2011). In this study (table 2), the magnitude of injury in children was 43.8%, which was slightly lower than a previous study in Assiut governorate, in Egypt, where the prevalence of home injuries was 50.3 % (Abd El-Aty et al., 2005). This slight difference in prevalence may be because the measurement of magnitude is different in most of studies. The magnitude of injury in the present study is approximately near to a previous study in South Delhi, in which the incidence of unintentional home injuries among children aged 0 – 14 years was 40% (Bhuvanesware et al., 2018), and higher than another study which reported that 30.7% of children in their study in Iran had had a home injury (Sedigheh et al., 2017).

In the present study (table 2), males were injured more than females, a similar finding in other studies conducted in Egypt (Halawa et al., 2015; El-Sayed et al., 2012) as well as elsewhere in the world (Tripura et al., 2015; Devi &Singh, 2011; Zia et al., 2012; Lasi et al., 2010; Razzak et al., 2004; Rehmani, 2008). This has been attributed to higher risk-taking behavior in boys compared to girls, but in this age group and in our setting might represent other cultural issues as well, for example, people in Upper Egypt have a strong "son preference" and this has been allow boys greater and earlier independence.

In this study (table 2), the most common age group injured was 1 – 3 years, followed by 5 – 10 years and similar findings were reported by other studies (Bhuvanesware et al., 2018; Devi &Singh, 2011; Radhakrishnan & Nayeem, 2016). This could be because the toddler starts walking during this period and is usually not aware of the risk of injury and the school going age group play actively and usually have a experimenting behavior.

In the present study (table 3), the most common injury found was falls, which is consistent with most of the other studies (Halawa et al., 2015; Tripura et al., 2015; Mutto et al., 2011; Saadat et al., 2011; Devi &Singh, 2011; Radhakrishnan & Nayeem, 2016; Khan et al., 2013; Kiser et al., 2012).

In the present study (table 3), the most common place of home injury was inside home compared to outside home, which was similar to other studies (Halawa et al., 2015; Thein et al., 2005; Linnan et al., 2007). One common hypothesis related to the high numbers of home injuries is that children spend significant amount of time at home especially in the younger ages; as a result they are exposed to a number of risks for home injury.

In the present study (table 3), the most accidents took place in the afternoon, which was similar to other studies (Bhuvanesware et al., 2018; Radhakrishnan & Nayeem, 2016; Stalin et al., 2015). Some studies (Majori et al., 2009; Siddiqui et al., 2012; Sikron et al., 2007) reported that accidents were more in the summer and winter months, which was consistent with the findings of the present study.

The present study (tables 4, 5), reported unsafe home environment for children and a similar finding was reported in other studies (Stalin et al., 2015; Sirohi et al., 2015; Qiu et al., 2014).

Previous work shows that parents may perceive fewer risks for their children and may believe that their own child is invulnerable to risks, and follows safety rules better than other children (Gaines & Schwebel, 2009). Parents may welcome passive strategies that rely on changing environment to reduce injury, whereas active strategies depend on individual behavior to promote safety (Munro, et al., 2006). Most high-income countries (HIC) have noted a dramatic decrease in the prevalence of home injuries with the implantation of passive prevention strategies, such as smoke alarms (Haddix et al., 2001) and child-proof medicine bottle caps (Rodgers, 1996). In lower-income settings, most of the passive safety strategies are either not present or not implemented by the government, for example, construction codes for houses are not a prerequisite, child-resistant packaging for medicines is not mandatory and older models of baby walkers with wheels are still being used. Furthermore, the practice of home modification does not exist with the addition of a child in the family. Particularly, lower-income families feel that they are not in a position to make risk reduction modifications to their homes because of financial cost (Munro et al., 2006). The 64th world health assembly placed emphasis on member states to involve all relevant stakeholders to implement child injury prevention strategies at the national level. This means the involvement of government along with other stakeholders, like communities, non-governmental organizations and civil society. The multilevel collaboration can facilitate the implementation of both active and passive preventive strategies and enables better resource allocation for child injury prevention programs in the country (WHO, 2011).

LIMITATIONS

The study does not reflect the burden of injuries in the community as the study focused on unintentional home injuries alone. There could be underreporting of not severe or life-threatening episodes. The generalizability of the results could be compromised owing to the setting and a random selection of the area studied.

RECOMMENDATIONS

From findings of the present study, environmental factors put the children at risk for injury at home. These findings point out the need for the implementation of safety and injury prevention measures that may involve legal changes and application of passive safety strategies. There is also an opportunity for

important strategies that parents may employ on their own, such as storing chemicals/matches out of the reach of the child, use of safe systems as electric heater for warming water, separate kitchen and sharp equipment away from the reach of children, and covering open vats/buckets of water, thus making homes safer for their children. Financial support to poor families.

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