

## Mothers' Awareness on Prevention of Home Accidents among Children in a Community

Bhagawaty Kalikotay<sup>1</sup>, Rabina Rijal<sup>2</sup>

### Abstract

*Children are at risk for injury because of their normal curiosity, impulsiveness, and desire to master new skills and imitate adult behavior from an early age. Injuries are the first leading but predictable, avoidable and preventable cause of morbidity and mortality among under-five-year-old children worldwide. The objective of the study was to find out the Mothers' awareness on prevention of home accidents among children in a community. A descriptive cross sectional research design was applied. Study was conducted in a community of ward number 8 at Mahalaxmi municipality in Lalitpur district. Non probability, purposive sampling technique was used to select 92 mothers of under five children. Semi structured interview schedule was used to collect the data. The data was entered in SPSS 16 version and was analyzed by both descriptive statistics like frequency, percentage, mean, median, standard deviation and inferential statistics i.e. Chi-Square test. The finding of the study revealed that more than half (58.7%) respondents had good awareness and nearly half (41.3 %) had average awareness on home accidents. This study also showed that the type of family of respondents was significantly associated with level of awareness of respondents ( $p = 0.020$ ). Most of the respondents (83.7%) knew about prevention of home accidents from radio. This study concluded that about half of the mothers had average awareness on prevention of home accidents among children. So, education programmes to mothers of under five children to enhance their knowledge and increase awareness on accident prevention measures through mass media is needful.*

**Keywords:** Awareness, Home Accident, Mothers, Prevention,

### Introduction

An accident is an incidental; unplanned, undesirable or unfortunate happening that occurs unintentionally and usually results in harm, injury, damage or loss (Oxford Dictionary). Accidents and injuries are the first leading but predictable, avoidable and preventable cause of morbidity and mortality among under-five-year-old children worldwide (Khan et al., 2019). Home accidents are the main cause of morbidity and mortality in early childhood and a major factor in lost productive life which occur in all age and result in serious health problem especially for children by affecting the physical, psychological and social aspects of life, and they lead to disability and even to death (Kurt & Aytaki, 2015, Turan et al., 2010). There are mainly two types of accidents that occur in

<sup>1</sup> Lecturer, Tribhuvan University, Institute of Medicine, Maharajgunj Nursing Campus, Email-[bkalikotel@gmail.com](mailto:bkalikotel@gmail.com)

<sup>2</sup> Registered nurse, TU Teaching Hospital, Maharajgunj

under-five years children: road traffic accidents and domestic accidents (Park, 2007). The main causes of accidents in the home are falls, fires and burns, suffocation, drowning, choking, poisoning and cuts and lacerations (Walker, 2018). Every year, millions of children are permanently disabled or disfigured because of accidents (Laursen & Moller, 2009). The most important obstacle for adopting preventive measures is the inability of mothers to take continuous care of their children, followed by poor knowledge and inappropriate attitude about factors involved in injuries (Sackitey, 2018). Accidental injuries to infants and young children are often serious; but they are avoidable with appropriate information and safe practices. The purpose of the study was to assess mother's awareness regarding prevention of home accidents among children.

According to the World Health Organization (WHO) every year about 830,000 children die from home accidents worldwide. This corresponds to 2,000 child deaths in a day. In addition, the majority of children (millions) have been referred to hospital due to home accident-related to injuries, eventually resulting in permanent disabilities (WHO, 2014). As per report of WHO (2011) worldwide 57% of children are affected from unintentional injuries, among them male are 73.7% and female are 40% and death from injuries are 6%. The causes of injury are falls 6%, drowning 6%, poisoning 6% and burns 5%. The National Safe Kids Campaign (2012) reported that in the United States 40% of deaths and 50% of non-fatal unintended accidents occur in and around the home.

According to Debnath et al. (2014) & Center for Disease Control (2011) observed that home accidents make up the third leading cause of emergency department visits in the USA and in the United Kingdom it is noted that 40% of all accidents occur at home while 2,700,000 people get treatment relating to home accidents. Similarly, 7,000 deaths are recorded annually due to home accidents. In the study analyzed the occurrence of child injuries in Ghanaian homes show that the majority of the respondents (73.3%) in total 30 respondents have had their children suffer from child injuries. This number exceeds the minority by 47 percent; hence it concludes that child injuries are prevalent in homes in Ghana (Sackitey, 2018).

A study in Nepal revealed that 31.6% of the respondent had adequate knowledge and more than half (59.2%) of the respondents had satisfactory knowledge regarding Prevention of Childhood Accident (Adhikari et al., 2017). A study conducted in mid-western development region of Nepal. Out of the 259 studied samples, the prevalence of self-reported unintentional injuries was 33.20% among the under-five children in the selected study sites (Kafle et al., 2018).

Global burden of disease estimated unintentional injury among <5 years children were responsible for 232, 00, 187 disability-adjusted life years (DALYs) in 2015 and evaluate 8.9/100,000 children <5 death rates. People from deprived and a minority background in poor countries often face more impact of injury (Bhatta, 2017). In 2015, an estimated 1,240 under-five children died from the injury, of them (48.8%) were of unintentional injury in Nepal. Evidence shows that injuries to children occur three times more in Nepal than western world. In Nepal non-fatal falls injury being the most common cause of injury in children (Pant et al., 2015). Children spending long periods of time in the home and the household environment present a variety of potential hazards which increases the probability of childhood unintentional injury in the household setting and surrounding environment (Chandran et al., 2013). The main causes of accidents in the home are falls, fires and burns, suffocation, drowning, choking, poisoning and cuts and lacerations

(Walker, 2018). Every year, millions of children are permanently disabled or disfigured because of accidents (Laursen & Moller, 2009) In Iraq, one of the leading causes of death among children under five years was found to be domestic accidents (Awqati et al., 2009).

As observed from the above literature, researchers concluded that mother awareness and knowledge will prevent accidents at home and the majority of accidents in the home are preventable so that it is important for parents in our communities, provide information about how to prevent accidents. For spreading the information on injury prevention special focus should be given on household modification and increased parental supervision. Family members are always busy to fulfill their basic need therefore small children are left under the responsibility of older sibling or grand-parents and these people properly take care of children and due to lack of awareness and knowledge regarding prevention of accidents these are likely to occur. As we know that prevention is better than cure, everybody must act towards prevention and promotion of the health of children.

Children in the 0-5 years age group are a risk group for home accidents, because they spend most of their time at home and curious to explore their surroundings. They are more susceptible to environmental risks and they do not have developmental skills to protect themselves from accidents. Therefore, it is the adults' responsibility, especially mothers to protect them against accidents. Accidental injuries to infants and young children are often serious; but they are avoidable with appropriate information and safe practices. It is important to enhance the awareness of mothers in the prevention of home accidents so the researcher is interested to conduct the study about awareness of mothers regarding prevention of home accidents among children.

## **Methods and Materials**

Quantitative research approach and descriptive cross-sectional study design was used to find out the awareness of mothers regarding prevention of home accidents. This study was conducted in a community of ward no. 8 of Mahalaxmi Municipality of Lalitpur district in Bagmati province. Mothers of under-five year children (6 months to 5 years) were the population of the study. Total population of under-five children in Ward No. 8 of Mahalaxmi Municipality was 1089 according to data of Mahalaxmi. Sample size was determined by using Slovin's formula Where  $N$  = known population of the study area and allowable error 10 % ( $n = \frac{N}{1+N(e)^2}$ ), and it was 92. Non probability, purposive sampling technique was adopted for the selection of samples. Mothers who had at least one child of 6 month to 5 years of age at the time of interview and who were willing to participate were included in the study. From the family with more than one mother with under-five children only one mother was selected.

A semi-structured interview schedule on the basis of research objectives was used. The instrument consists of two parts: Part I, Question related to socio – demographic variables of respondents and Part II, Questions related to awareness of mothers regarding prevention of home accidents. Instrument was first developed in English language and translated into Nepali. The awareness was assessed in terms of marking where the correct answer will score 1 and zero scored for incorrect answer. All scores were summed up and converted into percentage. Content validity of the instrument was maintained through literature review and consulting with seniors, research experts and discussion with colleagues. Pre-testing of the instrument was done in 10% of sample size (10) in a similar setting. Necessary changes and modifications were made according to the pretesting result. Prior to data collection, written approval was taken from the research committee of

Maharajgunj Nursing Campus. Permission was taken from the concerned authority of the selected community. The respondents were selected through home visiting in the community. The objectives of the study were explained and confidentiality was maintained by assuring that the information was used only for study purposes. Informed consent was taken prior to data collection then they were interviewed by the researcher herself using a structured interview schedule in Nepali Version. It took about 15-20 minute .The respondents were given liberty to discontinue their participation in this study at any time they wish.

The collected data was entered in SPSS software (Statistical Package for Social Science) version 16.0 and data was analyzed by using descriptive and inferential statistics and finding was depicted in tables.

## Results

In this study (table no.1) age group range 17 to 48 with major age groups of 21-30 years (70.7%). More than one third (40.2%) of respondents were Brahmin/Chhetri . Four-fifth of the respondents (82.6%) were Hindus. Regarding education, more than one third (38%) respondents had completed secondary level and minority (3.3%) had completed primary level. Regarding the occupation, 60.9% were home makers. Two-third (66.3% ) of the respondent had nuclear family and nearly two third (62%) of the respondent had one child whereas the major age group of under five children was infant (38% ).Similarly more than half (53.3%.) of the respondent's child was male and majority of the respondents (84.8%) had income sufficient for 6-12 month. Nearly half of the respondents (48.9%) answered that a child was taken care of by a husband in absence of a mother.

**Table 1**

*Socio-Demographic Characteristics of the Respondents by Age, Ethnicity, Religion, Education, Occupation(n=92)*

Characteristics	Number	Percentage
Age (in completed years)		
< 20	4	4.3
21-30	65	70.7
31-40	22	23.9
41-50	1	1.1
Mean age $\pm$ S.D = 27.74 $\pm$ 4.894		
Ethnicity		
Brahmin/Chhetri	37	40.2
Janajati	30	32.6
Newar	19	20.7
Dalit	4	4.3
Muslim	2	2.2
Religion		
Hinduism	76	82.6
Christianity	8	8.7
Buddhist	5	5.4
Islam	3	3.3

Education		
Informal education	10	10.9
Primary	3	3.3
Secondary	35	38
Higher	25	27.2
Bachelor	19	20.7
Occupation		
Homemaker	56	60.9
Business	18	19.6
Government service	8	8.7
Famer	5	5.4
Daily labor	3	3.3
Foreign	2	2.2

Majority of respondents (71.7%) mentioned home accidents as potentially harmful events that damage property and life and more than half (55.4%) of the respondents mentioned home accidents as unwanted events occurring at home (table no.2). Similarly, regarding awareness of respondents on types of home accident, almost all of the respondents (97.8 %) were aware of burn and nearly half of the respondents (44.6%) were aware of fall. Regarding the cause of home accidents most of all (89%) respondents responded as exploratory nature of children and majority of respondent (74.7%) answered lack of supervision.

**Table 2**

*Respondents' Knowledge on Home Accident( n=92)*

Variables*	Number	Percentage
Meaning of Home Accident		
Potentially harmful event that damage property and life	66	71.7
Sudden event occurring at home and immediate surrounding	55	59.8
Unwanted event occurring at home	51	55.4
Types of Home Accident		
Burn	90	97.8
Poisoning	84	91.3
Foreign Body Aspiration	84	91.3
Drowning	78	84.8
Fall	41	44.6
Causes of Home Accident		
Exploratory nature of children	81	89
Newly developed locomotive skill of children	79	86.8
Unsafe home environment	75	82.4
Lack of supervision	68	74.7

Most of all (89.1%) respondents answered carrying children during cooking as cause of burn, whereas, on prevention of burn, most of all (89.1%) respondents responded on not letting the child play in the kitchen while cooking. Regarding poisoning, the majority (77.2%) of respondents answered drugs, kerosene, cosmetics products as poisonous substances and on prevention of poisoning most of all (89.1%) respondents answered on keeping cosmetics, perfumes, essential oils out of reach of children.

**Table 3***Respondents' Awareness on Burn and Poison (n=92)*

Variables*	Number	Percentage
<b>Causes of Burn</b>		
Carrying children during cooking	82	89.1
Open electrical plug or electrical equipment like iron	79	85.9
Keeping the hot object within reach of child	75	81.5
Playing of child near the open fire, stove during cooking	66	71.7
<b>Prevention of Burn</b>		
Do not let the child to play in the kitchen while cooking	82	89.1
Never drink hot beverage with a child sitting in a lap	81	88.0
Check the temperature of water before bathing the child	77	83.7
Insert proper cover to socket ,keep electrical instrument out of reach	60	65.2
Keep hot drinks, tea pots, matches, hot object out of reach of child	57	62.0
<b>Common Poisonous Substance</b>		
Drugs/medicine	71	77.2
Kerosene and petrol	71	77.2
Cosmetic product	71	77.2
Pesticides and insecticides	62	67.4
Household chemicals like liquid soap, phenyl	62	67.4
<b>Preventing Poison</b>		
Keep cosmetics out of reach of child	82	89.1
Store household chemical in well leveled container or lock the poisonous substance in a drawer	75	81.5
Never give medicine as chocolate	55	59.8
keep chemicals and medicine out of reach	69	75.0

**\*Multiple responses**

Most of all (89.1%) respondents responded on swallowing of hard food like meat, nuts are the major cause of aspiration in under five children, whereas on prevention of foreign body aspiration most of all (88%) respondents answered not to leave child alone while eating and drinking and majority (80.4%) of respondent answered child's toys should be not having sharp object edge. Regarding drowning, findings revealed that most of all (85.9 %) respondents responded on an uncovered reservoir tank as a possible place of drowning and on prevention, almost all of respondents (95.7%) answered keeping a water container at bathroom with door closed. Most of all (88%) respondents responded inappropriate gait or unable to run as cause of fall. Regarding prevention of fall almost all (93.4%) respondent answered keep the floor dry with no obstruction.

**Table 4***Awareness Level of Respondents on Home Accident (n=92)*

Levels of awareness	Number	Percentage
Good (>50)	54	58.7
Average (<50)	38	41.3
Total =	92	100

Study reveals that more than half (58.7%) of the respondents had good awareness and 41.3 % had average awareness. Study revealed that there is no significant association between the age of mother, ethnicity, religion, education , occupation, economic status, age of under-five child, number of children, sex of child and care taker of children with level of awareness whereas type of family is significantly associated ( $p=0.020$ ) with the level of awareness .

Regarding the sources of information, the study findings shows that most of (83.7%) the respondents knew about prevention of home accidents from radio and more than half (57.6%) of the respondents knew from school/college.

## **Discussion**

The present Study reveals that among 92 respondents, more than half (58.7%) of the respondents had good awareness and 41.3 % had average awareness on prevention of Home accidents. This findings was contradictory with the study done by Adhikari et al.,( 2017) in Nepal which showed that among 174 respondents, more than half (68.4%) respondents had fair knowledge and nearly one third (31.6%) had good Knowledge scores on prevention of childhood accidents. The present study findings contradicted with the study findings by Shrestha et al., (2014) in Nepal which revealed that among 100 respondents, 73% had average knowledge and only 26% had good knowledge. The study results are in disagreement with the study results by lafta et al.,(2013) in Bagdad, which revealed that only 9.2% of the mothers acquired a good level of knowledge in prevention of injuries, and more than 90% were found to have poor knowledge. This might be because almost all of the respondents get information about home accident prevention from various sources of Information as they have access to various sources of information (radio, television, school, college, friends, senior family member, previous experience etc.).

The present study revealed that there was significant association between level of awareness with type of family ( $p=0.02$ ) whereas level of awareness was not significantly associated with age of mother, ethnicity, religion, education , occupation, economic status, age of under-five child, number of children, sex of child and care taker of children. This findings was contradicted with study findings of Adhikari et al.,(2017) in Nepal which revealed the significant association between level of awareness of mothers regarding Prevention of Childhood Accident with education status( $p$  value 0.003) and number of child ( $p$  value 0.001). The findings were also contradicted with the study by Megahed, et al., (2014) in Egypt which showed that mothers' knowledge score was higher with increased level of education. and by Lafta et al., (2013) in Baghdad which revealed that Older mothers were statistically found to have a better level of knowledge than younger mothers, educated mothers' were statistically associated with level of knowledge in accident prevention as well as Mothers with more children and those whose children had previously been involved in an accident were found to have a better level of knowledge.

Almost all of the respondents were aware of type home accidents including burn (97.8%), poisoning and aspiration (91.3%), drowning (84.8%) and nearly half (44.6%) were aware of fall. Regarding the cause of home accidents, most of all respondents (89%) responded that the exploratory nature of children causes accidents. These findings of the study were similar to study by Akhtar (2012) who included that 74.7% mothers mentions Children are especially at risk for injury because of their normal curiosity, impulsiveness and careless of parents

Regarding the cause and prevention of poisoning in under-five children, majority (77.2%) respondents mentioned drugs, kerosene, cosmetics products as common poisonous substances at home. This findings is supported by the study conducted by Asghar, Anees & Mahmood, (2010) in three different hospital of Lahore who reported the common ingested substances were petroleum product, alkaline cleaner (26%) and medicine (opiates 11.9%, tricyclic antidepressants 7.7% ).

On prevention of poisoning most of all (89.1%) respondents kept cosmetics, perfumes, essential oils out of reach of children to prevent poisoning in under five children and most of all (81.5%) respondents answered household chemicals should be stored in well leveled containers. These finding of the study is supported by the study conducted by Arulogun, Ikolo & Oluwassanu (2013) in 756 mothers of preschool children in Ibadan Southwest local government Nigeria found that keeping drugs in secured boxes (55.5%) is important preventive way for poisoning in under-five children.

Regarding the source of information, study findings show that most of (83.7%) the respondents knew about prevention of home accidents from radio and more than half (57.6%) of the respondents knew from school/college. Similar Results were obtained from the study conducted by Megahed et al. (2016) in Egypt, the study result revealed that among 270 mothers, the main source of knowledge was mass media (43.3%). The findings justify that use of mass media is a great way for information sharing and creating awareness on home accident prevention among children.

## Conclusion

On the basis of these study findings, it is concluded that more than half of the mothers of under- five children had a good awareness level about home accidents and The types of family tend to affect the level of awareness of the mother regarding prevention of home accidents. The radio is a major source of information for the mothers. There are needs of education programmes to mothers of under five children to enhance their knowledge and increase awareness regarding accident prevention through mass media.

## References

- Adhikari, B., Bhattarai, S., & Gauro, P.(2017).Awareness and practice of mothers having under five children regarding prevention of childhood accidents. *International Journal of Health Sciences & Research* ([www.ijhsr.org](http://www.ijhsr.org)) 136 Vol.7;Issue: 9; September 2017 134-144.
- Adhikari, B., Bhattarai, S., Gauro, P., & Mishra, R. (2017). Awareness and Practice of Mother Having Under Five Children Regarding Prevention of Childhood Accidents. *International Journal of Health Sciences*, 9, 11.
- Akhtar, J. (2012). Making Home Safe for Children. *APSP J Case Rep.*;3:1–2
- Arulogun, O.S., Ikolo, O., & Oluwasanu, M. (2013).Knowledge and Practice related to Domestic Accident among Mothers of under Five Children in Ibadan Southwest .*IOSR Journal of Dental and Medical Science*,6(3),49-55.
- Awqati, N.A., Ali, M.M., Al-Ward, N.J.,Majeed,F.A.,Salman,K.,Al-Alak,M., et.al., (2009) Causes and differentials of childhood mortality in Iraq. *BMC Pediatr.* Jun 22;9:40. doi: 10.1186/1471-2431-9-40
- Bhatta, S. (2017).Community-based home injury risk assessment in rural Nepal [PhD thesis]. University of the west of England. [http:// eprints.uwe.ac.uk/32549/](http://eprints.uwe.ac.uk/32549/)



- Chandran,A.,Khan,R.U.,Zia,N.,Feroze,A.,Ramirez,S.S.,Huang,C.,e.t.al.(2013).Disseminating Childhood Home injury Risk Reduction Information in Pakistan.*Int J Environ Res Pub Health*;10:1113-24. DOI: <https://doi.org/10.3390/ijerph10031113>
- Debnath, M., Reang, T., & Tripura, A. (2014). A study to assess the knowledge of rural mothers regarding common domestic childhood injuries and home-safety measures adopted by them in the west district of Tripura, India. *J Evol Med Dent Sci.*;3(20):5522–8.
- Department for Transport (DfT). RAS30028. (2014) Reported casualties by age and user type and severity, England, 2014: [www.gov.uk/government/statistics/reported-road-casualties-great-britain-annual-report-](http://www.gov.uk/government/statistics/reported-road-casualties-great-britain-annual-report-)
- Kafle,B.,Yadav,U.N., Marhatta,S.B., Mishra,D., & Pant,N.D.,(2018)Unintentional Injuries among Under Five Children in Mid-Western Nepal. *J Nepal Paediatr Soc*;38(1):46-52. <http://dx.doi.org/10.3126/jnps.v38i1.18250>
- Khan, S., Tauheed, N., Nawab, S., Afzal, S., & Khalique, N., (2019). Domestic accidents among under-5 year children: a study on the modern day epidemic. *International Journal of Community Medicine and Public Health*; 6:1529-35.
- Kurt, F.Y., & Aytekin, A. (2015) Home accidents among 0-6-year-old children. *Journal of Health Sciences and Professions*.volume 2(1):2232.
- Lafta, R. K., Al-Shatari, S. A., & Abass, S. (2013). Mothers' knowledge of domestic accident prevention involving children in Baghdad City. *Qatar Medical Journal*, 2013(2), 50–56. <https://doi.org/10.5339/qmj.2013.17>
- Laursen,B., & Møller,H., (2009) Unintentional injuries in children of Danish and foreign-born mothers. *Scand J Public Health* August.;37:577–583.
- Pant, R.P., Towner, E., Ellis, M., Manandhar, D., Pilkington, P., & Mytton,J.,(2015) Epidemiology of unintentional child injuries in the Makwanpur district of Nepal: a household survey. *Int J Environ Res Pub Health*; 12:15118-28. DOI: 10.3390/ijerph121214967
- Park K. (2007) Textbook of preventive and social Medicine. 19th edition. Jabalpur, India: P340-343, 1167 2.
- Sackitey,G.L., (2018) Knowledge, Attitude and Perception on Prevention of Home Accidents among Mothers who Came to the Pediatrics Department of the Korle-Bu Teaching Hospital. *J Health Educ Res Dev* 6: 242. DOI: 10.4172/2380-5439.1000242
- Shresth,S., Singh,S.,Subedi,G.,& Chanda,N.,(2014) Knowledge regarding prevention of minor accidents in children among mothers attending MCH clinic . *International journal of nursing research and practice*,1,1 available in <http://www.ophttr.com>
- Turan, T., Altundağ, D.S., Yorgancı, M., & Yıldırım, Z., (2010) The prevention of home accidents among children aged 0-6 years. *Turkish Journal of Trauma & Emergency Surgery*. 2010;16(6):5527.
- Walker, V. (2018) Child safety in your home. Available at: [www.childsafety.com](http://www.childsafety.com). Accessed on 12 October. 10
- World Health Organization (2014) World report on child injury prevention. December 2014 World Health Organization. Accessed on: December 15, 2014