

# Domestic accidents: an emerging threat to community

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## Abstract

**Background:** Domestic accidents are emerging as a new epidemic. They result in significant mortality and morbidity. Majority of the domestic accidents are preventable.

**Objective:** To study the occurrence of domestic accident and awareness on its prevention in an urban community.

**Materials and Methods:** A community-based cross-sectional study was conducted on 300 members residing in an urban area. Complete information was collected through a semi-structured, pretested questionnaire. Domestic accident was considered when any of these individuals had met with an accident inside the house or in the immediate surroundings of the house. The data were analyzed using appropriate statistical software (MS Excel and SPSS, version 20).

**Results:** This study on the assessment of the level of awareness on preventive measures revealed that 40% respondents used apron while working in kitchen, 58% did not have a first-aid kit in the kitchen; 84% respondents said that subdue fire caused by electricity should be dealt with pouring water on fire; and 56% respondents were unaware that keeping the handle of the pan toward oneself may lead to tipping on contents on them and cause injury. Sixty-eight percent respondents were unaware about the storage of medicines in cool and dry places.

**Conclusions:** The most common accident reported was cuts. The level of awareness regarding domestic accidents was not high among the residents and hence there is a serious need to address the problem through public health education.

**KEY WORDS:** Community, domestic accidents, epidemic, mortality, morbidity


## Introduction

Domestic accident is an accident that takes place at home or in its immediate surroundings, and more generally, all accidents not connected with traffic, vehicles, or sport.<sup>[1]</sup> Domestic accidents are worldwide public health problems.<sup>[1]</sup> With decline in communicable disease worldwide, accidents as a whole are making increasing contribution to the increase

in mortality and morbidity worldwide.<sup>[2]</sup> Accidents are emerging as a new epidemic throughout the world. Though the problem of road traffic accidents and occupational accidents have received attention worldwide, the accidents in and around the houses are still grossly ignored.<sup>[2]</sup> A disappointing fact about it that very little awareness is present regarding this problem.<sup>[2]</sup> Pattern of domestic accidents depends on a wide number of factors such as social economic and cultural, but it is prudent that awareness about the preventive measures can produce impressive results in decreasing the burden of this problem.<sup>[2]</sup> Domestic accidents can be tackled as a health problem at two levels, centrally, in terms of laws and social policy and of organization of health services, and locally, at the level of family in terms of education for good risk-taking or in terms of design.<sup>[2]</sup>

In India, the incidence of accidental deaths has shown an increasing trend during the period 2003–2012 with an increase of 51.8% in the year 2012 as compared to 2002.

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The percentage share in total accidental deaths by Madhya Pradesh was (9.1%); the incidence of accidental deaths has increased by 1.0% at national level during 2012 as compared to 2011.<sup>[3]</sup>

In some European countries, accidents at home kill more people than on road.<sup>[4]</sup> The problem is more serious in developing countries.<sup>[5]</sup> Research shows that good home safety visits can reduce home accidents to children by up to 26%.<sup>[6]</sup> The increasing severity of problem in India prompts serious action into this field by public health workers. There is a serious need of risk assessment and increasing the awareness on prevention measures so as to reduce mortality and morbidity. Despite the knowledge on increasing incidence of domestic accidents very few studies have been conducted to test the level of awareness on its prevention. In this context, this study was carried out to evaluate the occurrence of domestic accident and awareness on its prevention in an urban community.

### Materials and Methods

A cross-sectional study was conducted in an urban colony (Rajendra Nagar) of Indore. Households were selected by systematic random sampling as every fifth house was selected, and all the adult members were selected. If the fifth household was closed or not responded in three consecutive visits then next house was selected without disturbing allocation of next household. All the adult members of household who were involved in household works were selected. Sample size of the study was 300. Written informed consent was obtained before the interview. Study duration

was 4 months (October 2013 to January 2014). Inclusion criteria included all the adult members of household aged more than 18 years. Informed consent to participate in the study was obtained. A semi-structured questionnaire was used as the study tool for interview. The questionnaire was designed to know the occurrence of a domestic accident and awareness on its prevention in an urban community. Pretesting of questionnaire was done and appropriate changes were made on the basis of their results. Ethical permission was obtained institutional review committee. The data were analyzed using appropriate statistical software (Microsoft Office Excel).

### Results

This study was conducted in an urban area of Indore. Majority of the respondents (246, 82%) were between 21 and 50 years of age; 174 (58%) were unemployed; 48 (16%) were unskilled workers; 30 (10%) were semi-skilled; and 42 (14%) were skilled workers.

In this study, the most common domestic accident was reported to be cuts (114, 38%), followed by falls and slips (96, 32%) and scalds (51, 17%). Electric shocks (3%) and poisoning (2%) were found to be the least common domestic accidents [Table 1].

The assessment of level of awareness on preventive measures for domestic accidents revealed that only 120 (40%) participants used apron while working in kitchen; 174 (58%) did not have a first-aid kit in kitchen; 204 (68%) were always present while cooking on gas; 252 (84%) put off regulator during the night; and 270 (90%) periodically checked electrical appliances [Table 2].

Of the participants, 180 (60%) were unaware about the maximum amount of oil that can safely be taken in the pan and 204 (68%) were unaware about the storage of medicines in cool and dry places [Table 3].

In this study, 222 (74%) respondents were found to be aware about the first aid measure in case of gas leaking and 234 (78%) had knowledge about dealing when oil in pan catches fire; 252 (84%) respondents said that subdue fire caused by electricity should be dealt with pouring water on fire. About 168 (56%) participants were unaware that keeping

**Table 1:** Type of domestic accidents

Type of domestic accident	Number (%)
Burns	24 (8)
Scalds	51 (17)
Cuts	114 (38)
Falls and slips	96 (32)
Electric shocks	9 (3)
Poisoning	6 (2)

**Table 2:** Preventive measure used in domestic accidents

Preventive measure used	Response, n (%)		
	Yes	No	Sometimes
Wearing apron while working in kitchen	120 (40)	36 (12)	144 (48)
Always present while cooking on the gas	204 (68)	24 (8)	72 (24)
Keeping sharp instruments in closed cupboard	210 (70)	60 (20)	30 (10)
Keeping electric appliance near burner or washbasin	111 (37)	189 (63)	0
Putting off regulator during night or going out	252 (84)	18 (6)	30 (10)
Keeping a first aid in kitchen	126 (42)	174 (58)	0
Periodic checking of safety of electrical appliance and socket	270 (90)	30 (10)	0
Using a sharp knife for cutting fruits and vegetables	78 (26)	96 (32)	126 (42)

**Table 3:** Awareness about various preventive measures used against domestic accidents

Awareness about preventive measure	Response, n (%)		
	Aware	Unaware	Sometimes
Knowledge about maximum amount of oil safely taken in pan (1/3)	120 (40)	180 (60)	0
Knowledge about dealing when oil in pan catches fire	234 (78)	66 (22)	0
Present when kids work in kitchen	264 (88)	24 (8)	12 (4)
Knowledge about storing medicines at cool and dry places	96 (32)	204 (68)	0
Awareness about first measure in case of gas leaking	222 (74)	78 (26)	0

**Table 4:** Risky behavior that lead to domestic accidents

Risky behavior	Response		
	Number	Percentage	
Keeping cleaning agent in house	On kitchen platform	30	10
	In washroom	84	28
	In locked cupboard	186	62
Response to subdue fire caused by electricity	Remove plug from socket	12	4
	Pour water over fire	252	84
	Cover with a blanket	36	12
Keeping handle of pan while cooking	Toward yourself	120	40
	Away from yourself	132	44
	Anywhere	48	16
Cutting fruits and vegetables	On chopping board	168	56
	While holding in hand	36	12
	Either ways	96	32
Getting objects placed above reach	Use stool or ladder	294	68
	Climb on platform	6	2
	On tip-toes	90	30

the handle of the pan toward oneself may lead to tipping on contents on them and cause injury [Table 4].

## Discussion

This study mainly gives information about the causes of domestic accident and their prevention measures. Majority of the respondents were between 21 and 50 years of age with the mean age 32.12 ± 5.23 years. Most of them were educated and housewife by profession.

In this study, the most common domestic accident was reported to be cuts (38%), followed by falls and slips (32%) and scalds (17%). Poisoning and electric shocks were found to be the least common domestic accidents. These finding are comparable to those reported in the study of Chaurasia and Shukul,<sup>[7]</sup> who observed a higher proportion of burns and scalds.<sup>[7]</sup> The Large Analysis and Review of European housing and health Status survey of the WHO Regional Office for Europe reported cuts as the most frequent accident type followed by falls and burns.<sup>[8]</sup> Burns and sharp-object injuries were the most common types of domestic accidents found in the study by Neghab *et al.*<sup>[9]</sup>

In this study, the overall level of awareness on preventive measures was found to be low. The study revealed that only

40% used apron while working in the kitchen. As using apron during cooking is thought to be a Western pattern, its use is less frequent in India. Only 42% respondents had a first-aid kit in the kitchen. Eighty-four percent participants thought that subdue fire caused by electricity should be dealt with pouring water on fire whereas water being good source of electricity should not be used for fire caused by electricity. These findings are in contrast with those reported a study by Saad *et al.*,<sup>[10]</sup> who revealed that the level of awareness in mothers about the risk factors and prevention of domestic accidents was high.

The finding of this study indicates toward an urgent need of an awareness program for domestic accidents covering all the aspects and level of Indian society. It is important to encourage domestic accident prevention from an early age. The education sector can make an important contribution in reducing the domestic accidents involving children and young people. During the school, children can be taught safe behavior, which they can take home and ensure their behavior is modified to safe behavior.<sup>[11]</sup> The program should specially target school-going children and non-working mothers regarding the prevention and first aid against domestic accidents. In urban areas, mock drills can be organized in different localities by involving social activists. In rural areas, this task can be taken up by ASHA.

Despite increasing incidence of preventable causes of domestic accidents, the awareness regarding it is poor. The increasing severity of problem in India prompts serious action into this field by public health workers. There is a serious need of assessing the risk and increasing the awareness on prevention measures so as to reduce mortality and morbidity. Also, the basic first aid measures in relations to the prevalent domestic accidents should be popularized through the public health education.

## Conclusions

The most common accident reported was cuts. The level of awareness regarding domestic accidents was not high among the residents and hence there is a serious need to address the problem by public health education.

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