

Domestic accidents in a rural community of Bangladesh: A cross-sectional study on their incidence and characteristics.

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Abstract

In a developing country like Bangladesh knowledge about domestic accidents is sparse. But accident is one of the major causes of morbidity and mortality in both developed and developing countries. [1] The relationship between domestic accidents and human health is direct and associated with a chain of socio-economic consequences. In this paper we try to bring out the patterns of domestic accidents and their characteristics in a rural community of Bangladesh. A questionnaire survey was conducted on 297 households of Shitpara village under Bormi union of Shreepur Upazilla constituting 1171 family members to determine the prevalence and characteristics of household accidents. The collected data were then analyzed by SPSS 16. (Statistical package for social science) A total of 171 domestic accidents had occurred during one year period with a prevalence of 146.02/1000 population. Majority of the victims are male (52.6%). Commonest household accident was fall (50.9%) followed by Cut injury (22.2%) and Burn (11.7%). Health education program aimed at prevention and first aid treatment of domestic accidents and proper use of personal protective measures are recommended.

Keywords: Domestic accidents, Bangladesh, rural area, public health.

1. Introduction

The public health experts have coined the name 'Modern Day Epidemic' for accidents. [2] Though majority of the accidents and associated morbidity & mortality occurs in the developing and underdeveloped countries [3], information about their distribution, pattern, predisposing factors are hardly known to the epidemiologists. [4] Most of the accident related researches are focused on Road-traffic accidents and urban populations. [5] Only a few cross-sectional studies have been conducted focusing on rural communities including Pakistan [6], India [7], Ghana [8] showing that domestic accidents possess a potential threat in Public health sector.

Domestic accident is an accident that takes place at home or its immediate surrounding and more generally, all accidents not connected with traffic, vehicles and sports. Every domestic accident brings deleterious physical and mental health effects to the concerned victims and his/her family members. The victim suffers from physical & mental stress, loss of earning capacity and productivity. Children in particular are more vulnerable to domestic accidents. [9] In different age group the type of the accidents are different. Like, elderly people are prone to accidents because of their failing vision, slow movements, osteoporosis and osteoarthritis. [10] Women who are having pregnancy, anger, anxiety or stress often suffer from burn, suffocation, electrocution and cut injury. Domestic accidents are worldwide public health issue. In USA, household accidents constitute almost 20% of all unintentional injuries which is the 5th leading cause of death. [12] Most importantly with the advancement of technology, the incidence of domestic accidents is increasing even in the developing countries. For example, in Shiraz province of Iran domestic accidents increase at a rate of 24.4% increase each year. [13]

Majority of our people resides in the village. They have very little access to healthcare facilities as there is a huge health inequity between the urban and rural area of Bangladesh. The people living in the villages are also not conscious about their health and due to extreme poverty they often afford the health related costs. Moreover, there is an extreme shortage of qualified doctors and necessary instruments in the rural areas which often hampers the treatment. Along with various communicable and non-communicable diseases, domestic accidents

attribute a remarkable portion of morbidity and mortality. Children and elderly people are the main victims of these preventable yet highly under-recognized issues. Injury is one of the leading causes of child morbidity among the age of 1-7 years; revealed in Bangladesh Health and Injury Survey conducted by Center for Injury prevention and Research Bangladesh (CIPRB). [11]

As Bangladesh is becoming more and more advanced in health & development issues, domestic accident is beginning to grab our attention. Moreover, the number of well recognized surveys on this topic in this region is negligible. Now, as we know the pattern of home accidents differs widely between rural and urban areas [14] and as most of the people of this country live in the villages, in this paper we take the opportunity to assess the prevalence of domestic accidents, their types in a rural community and information about the victims to draw the attention of health care planners.

1.1 Materials and methods

1.1.1 Study area

The Sreepur Upazilla is located in Gazipur district under Dhaka division, Bangladesh. Sreepur upazilla has 320530 inhabitants, of whom around 95% people are residing in rural areas. Among them 51.13% are male and 48.87% are female. 95.43% people are Muslim by religion, where 4.26% are Hindu, 0.11% are Christians. The average literacy rate is 44%; male 42.5%, female 45.9%. The inhabitants of this area mainly depend on Agriculture (55.7%) for their livelihood. The health facility of this upazilla consists of 1 Upazilla Health Complex, 4 Union health centers, 6 family welfare centers, 6 satellite clinics and 4 NGO operated health centers. [15]

1.1.2 Data Collection and analysis

Data collection was done by a questionnaire survey. The questionnaire was set in such way that it would provide necessary information about the domestic accidents and their victims from the study area. The questionnaire consists of 2 parts. The 1st part was dealing with the basic demographic information of the respondents like as age, sex, religion, educational status, occupation, total family members. The 2nd part, consisting of a checklist, was concerned with information about domestic accidents and their victims who suffered from household accidents within the last one year from the study period (March 2011). Before collection of the data, the purpose of the study was explained to the respondents and verbal consent was taken. Then, data was collected through face to face interview. The quality of the data was strictly controlled by the supervisor.

Data entry, processing and analysis were done by Computer based software SPSS 16 (Statistical Package for Social Sciences). Descriptive statistical analysis was done to explore the characteristics of the victims (age, sex, occupation, educational level), of the domestic accidents (type, place & time of occurrence) and their consequences.

2. Results

2.1 Domestic accidents prevalence

A total number of 171 household accidents were reported in the study area. The found prevalence rate of domestic accidents in our study is 146.02/1000 population in that selected rural community.

2.2 Characteristics of the Victims

Table 1 represents the characteristics of the victims who had suffered from different domestic accidents from March 2010 to February 2011. Among the total 171 victims, 90 were male (52.7%) and 81 were female (47.3%). Age group consisting of 19-64 years was the most vulnerable group (52.0%) to household accidents. Housewife (25.7%), Students (22.2%) and Farmers (12.9%) were the 3 most affected groups to the domestic accidents. Surprisingly, 58.5% of the victims had institutional education, whereas the rest (41.5%) of the victims were either illiterate or had non-institutional education.

2.3 Characteristics of the domestic accidents

Figure 1 shows that among 171 victims highest (50.9%) number of occurrence were due to fall, 22.2% were due to cut injury, 11.7% accidents were due to burn, 4.1% were due to electrocution, 1.8% occurrence were due to poisoning and 1.2% were due to snake bite. There was a single incidence of drowning which constitutes 0.6% of the total. Figure 2 It has been found that most (49.7%) of the accidents occurred in courtyards. 15.8% in kitchen, 9.4% in bedroom, 4.7% in bathroom, 3.5% accidents in cattle shed & 17% accidents took place in other than the above mentioned places.

Table 2 shows place, time, activities during accident and necessity of treatment following the accidents. Highest number of domestic accidents occurred in the Courtyards (49.7%) and kitchen (15.8%), Bedroom (9.4%) and bathroom (4.7%) are the other places where rest of the accidents happened. Most of the victims were playing (28.7%) or doing domestic works (28.1%) at the time of accidents happened. Morning (29.2%) and Noon (39.2%) are the time when these accidents were frequent in numbers. Most of the victims (84.21%) needed treatment following the accidents.

Figure 2 shows that 45.5% of the victims took treatment at home, 21.92% at private clinic, and 10.18% at outdoor of government hospital & 19.6% took treatment from rural practitioners. Only 2.74% victims needed hospital admission.

3. Discussion

A total of 171 accidents occurred in last one year among 1171 family members of 297 households which constitutes 14.6% of our study population. The findings of our study was consistent with that of the study conducted by the Department of Community Medicine Doyanonn Medical College & Hospital, Ludhiana, Punjab among the people of Shoharmarja village where the percentage of domestic accident was 10.6. [16] We found that highest number of accidents occurred in the age group 19-64 years which constitutes 52% of total accident.(Table 1) As this age group are mostly active in both home and around. Age group 6-18 takes 40 events that are 23.4% of total accident. This group includes the younger members of the family who are mostly engaged in playing and takes active part in household works. Thirty one domestic accidents occurred among children aged from 1-5 years & 11 accidents occurred among older members of the family aged 65 years and above this may be due to their less involvement in house hold works. The result of our study was comparable with that of the study conducted by GPI Sing, Director Principal & Professor, Adesh Institute of Medical Science & Research, Bathinda where highest percentage of accidents (34.3%) occurs among 15-45 years of age. Among 5-15 years of age the rate is 25.3% and 15% among above 65 years age group. [17] Though females are more engaged in household works surprisingly in our study we found males are the most frequent victim of domestic accidents. In our study, among 171 number of total events males become victim 90 times whereas females 81 times. The rate is 52.6% & 47.4% respectively for male & female. The findings of our study are consistent with study conducted by Department of Occupational Health & Biostatistics, Shiraz University of Medical Science, Shiraz, Iran where males (52%) are affected more than females (48%). [18] Regarding occupation, we found that housewives are at the top of the chart with 44 events which is constitute 25.7% of total accidents followed by students with 38 events (22.2%). In rural areas of Bangladesh housewives usually do all types of household works so they are most vulnerable to domestic accidents that are reflected in our findings. Fall was the highest ranked type of accident in our study that occurred 87 times and comprises 50.9% of total events. Among them fall from height, fall from one level to another level such as from bed, chair, table & playground equipment was most common. Cut injury takes the second place in our study with 38 occurrences (28.2%). Burn, electrocution, poisoning occurred in 11.7%, 4.1%, 1.8% cases respectively. We also found a single case of drowning and two cases of snake bite. Similar finding were found in a study carried out by Department of Community Medicine, P.S. Medical College, Karamsed, Gujarat, India which concludes fall was the most (48%) frequent types of accident then cut injury (10.1%) and burn (13%). [19] Most (49.7%) of the accidents occurred in courtyards while playing or doing some other domestic works. Kitchen, bedroom, bathroom and cattle shed constitutes 27(15.8%), 16(9.4%), 8(4.7%) & 6(3.5%) events respectively. Similar was the findings of the study conducted by Department of Community Medicine, Doyanann Medical College & Hospital, Ludhiana, Punjab where courtyard holds highest 53.3% of accident. For room, kitchen and bathroom the shares are 20.8%, 16.3%, 2.3% respectively. [20] Among 171 cases 144 cases required treatment. It was 84.2% of the total. Remaining 15.8% cured without any treatment. We found that most (31%) of the people took treatment at their home. Private clinic was the second most common place of treatment where 32 victims took their treatment, which constitutes 18.7% of the total. Traditional healers also took an important position where 14.6% of the victims were treated.

4. Conclusion

The prevalence rate of domestic accidents in the rural community of Bangladesh is still high. For these unexpected occurrence productivity of the affected people is greatly hampered which results in various socio-economic, physical and mental crisis. The prevention of these accidents is not an easy task. Supervision of the guardians can readily reduce the rate of domestic accidents among the children. Further study may be conducted on background factors, initiating factors and immediate factors to find out the actual causes behind these accidents. Preventive measures including safety measures, suitable and risk-free infrastructure development at community level and education about the early treatment of domestic accidents can play an increasingly important role in the prevention of domestic accidents at the rural areas of developing countries.

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Table 1. Characteristics of the victims of domestic accidents

Category	Subcategory	Result (%)
Sex	Male	90 (52.63)
	Female	81 (47.37)
Age group (in years)	1-5	31 (18.1)
	6-18	40 (23.4)
	19-64	89 (52.0)
	65 and above	11 (6.4)
Literacy status	Illiterate	48 (28.1)
	Non-institutional	23 (13.4)
	Institutional	100 (58.5)
Occupation	Housewife	44 (25.7)
	Student	38 (22.2)
	Farmer	22 (12.9)
	Day labourer	11 (6.4)
	Business	9 (5.3)
	others	28 (16.4)

Table 2. Characteristics of the domestic accidents

Category	Subcategory	Result (%)
Place	Courtyards	49.7%
	Kitchen	15.8%
	Bedroom	9.4%
	Bathroom	4.7%
	Cattle shed	3.5%
	Others	17%
Activities during occurrence	Playing	28.7%
	Domestic works	28.1%
	Cooking	12.3%
	Bathing	5.8%
	Others	25.1%
Time of occurrence	Noon	39.2%
	Morning	29.2%
	Evening	19.9%
	Night	11%
Necessity of treatment	Yes	84.21
	No	15.79

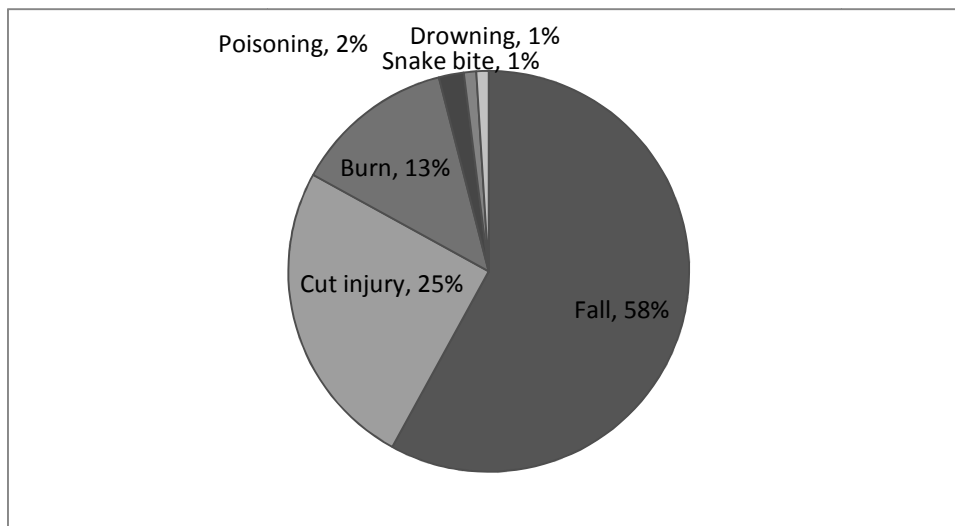


Figure 1. Types of domestic accidents.

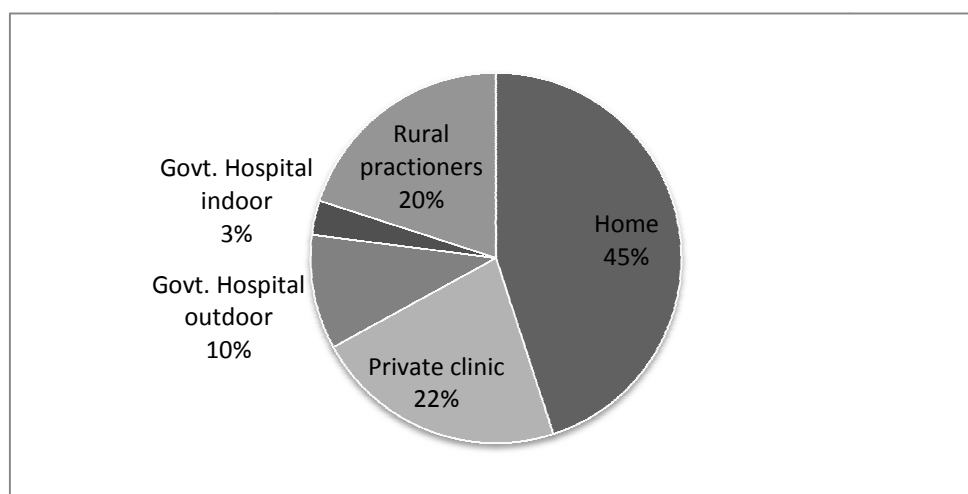


Figure 2. Treatment places after the domestic accidents.

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