

Pattern of domestic injuries among patients attending Rural Health Training Center of SDM College of Medical Sciences and Hospital, Dharwad, Karnataka

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ABSTRACT

Background: Domestic accidents are worldwide health problems which are often neglected. The problem is more in developing countries, especially in rural areas due to lack of awareness, poor housing, and lack of health facilities. These can lead to significant morbidity but are underrecognized. **Objective:** To know the pattern of domestic injuries among patients attending Rural Health Training Center (RHTC). **Materials and Methods:** A cross-sectional study was conducted among 200 patients attending RHTC. A semi-structured questionnaire was used for data collection, and information on occurrence of domestic injuries in previous 6 months was noted. Data were analyzed using SPSS v20. **Results:** A total of 200 patients participated in the study. The mean age of participants was 28.74 ± 18.24 years. Most common type of injury found was abrasion (34%) and least common was poisoning (0.6%). Most commonly encountered mode of injury was fall (44%). The common site of injury was in hands (31%). Most of the injuries occurred during evening (29.6%) and afternoon (27.8%). About 32.9% of them neglected their injuries and only 25.2% visited doctor for treatment. Among injured participants, 43% had restriction of daily activities and 32.2% had loss of work due to injuries. **Conclusion:** Most common type of injury found in our study was abrasion (34%) and least common was poisoning (0.6%). These injuries mostly occurred in the evening (29.6%) and afternoon (27.8%). Commonly occurred due to fall (44%) and in 43% of them injuries restricted their daily activities which reflect the morbidity due to domestic injuries.


KEY WORDS: Domestic Injuries; Rural; Pattern, Loss of Work

INTRODUCTION

Unintentional injuries are a major public health problem worldwide. Member countries of South-East Asia Region are passing through a major epidemiological transition, sociodemographic change, and technological revolution during the past two decades. These changes have resulted in an unprecedented upsurge of non-communicable diseases

and injuries.^[1] Accidents can occur in variety of environments such as at home, at play, at work, and on roads.^[2] Domestic accidents contribute a major proportion in the prevalence of injuries. Domestic accidents include an accident that takes place at home and/or its immediate surrounding and not the accidents that occur due to traffic, vehicle, or sports.^[3] These include burns, falls, poisoning, drowning, animal bites, and injuries due to sharp objects. Falls are the second most common cause of death due to unintentional injuries after road traffic accidents, followed by drowning, poisoning, and burns.^[4]

Domestic accidents are an important public health problem. The problem is much more in rural India. Domestic accidents are one of the five leading causes of death in industrialized and developing countries. People from lower socioeconomic

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status, with underlying medical conditions, living in poor housing conditions and lack of proper safety measures are at higher risk of domestic accidents. Due to domestic accidents, people may land up into economic loss, disability, deformity, and premature death.^[5]

Every domestic accident brings distress not only to the victim but also to the family members. Domestic accidents can result in disability and loss of productivity.^[6] The causes of these accidents are many. For example, elderly people are liable to accidents because of their poor vision, slow movements, osteoporosis, and osteoarthritis. Children and women are likely to sustain injuries due to less carefulness.^[7]

With this background, the study was undertaken to know the pattern of domestic injuries among patients attending Rural Health Training Center (RHTC) of Sri Dharmasthala Manjunatheshwara College of Medical Sciences and Hospital (SDMCMSH), Dharwad, Karnataka, India.

MATERIALS AND METHODS

A cross-sectional study was conducted at RHTC of Department of Community Medicine, SDMCMSH, Dharwad, from 15th February to 14th March 2017. The study participants were patients attending RHTC above the age of 1 year. Data were collected after taking oral informed consent from the study participants. For those below 14 years of age, patients' consent was obtained from the parents/guardians. Convenient sampling was done and 200 patients were chosen for the study. The questionnaire consisted of details regarding sociodemographic characteristics in the first part such as age, sex, education, occupation, type of family, and socioeconomic status. The second part of the questionnaire included the questions related to domestic injuries in the past 6 months such as type of injury, mode and time of injury, activity during which injury, site of injury, and treatment received for the injury.

Statistical Analysis

Data were entered in Microsoft Excel 2010 and analyzed using SPSS v20. Descriptive statistics such as frequencies, percentages, mean, and standard deviation were calculated. Chi-square test was applied to see association between two variables.

RESULTS

A total of 200 patients participated in the study. The mean age of participants was 28.74 ± 18.24 years. Majority of the study participants were in the age group of 20-29 years (25%). Most of the participants were males (67.5%) and females were 32.5%. As much as 56% belonged to nuclear family, 24% three-generation family, and 20% joint family. Most of

the study participants belonged to Class III socioeconomic status (47%) as shown in Table 1.

When enquired regarding any domestic injury in the past 6 months, 155 patients (77.5%) had some kind of domestic injury. Among these 155 personnel, most common type of injury was abrasion (34%), followed by fall (25.8%), laceration (13%), animal bite (10.6%), burns (9.6%), fracture (6.4%), and poisoning (0.6%). Most commonly encountered mode of injury was fall (44%), followed by injuries by sharp objects (28.3%), fire (12.3%), and animal bite (10.6%). Majority of the injuries occurred during domestic work (36.8%) followed while playing (25.9%), bathing (14.8%),

Table 1: Distribution of study participants according to sociodemographic characteristics

Characteristics	Number (%)
Age (years)	
1-9	23 (11.5)
10-19	49 (24.5)
20-29	50 (25.0)
30-39	23 (11.5)
40-49	23 (11.5)
50-59	13 (6.5)
>60	19 (9.5)
Gender	
Male	135 (67.5)
Female	65 (32.5)
Occupation	
Housewife	29 (14.5)
Agriculture	57 (28.5)
Business	17 (8.5)
Daily wager	34 (17.0)
Others (include children)	63 (31.5)
Type of family	
Nuclear	112 (56.0)
Three generation	48 (24.0)
Joint	40 (20.0)
Socioeconomic status*	
II	38 (19.0)
III	94 (47.0)
IV	60 (30.0)
V	08 (4.0)
Education	
Illiterate	46 (19.5)
Primary	88 (9.0)
Secondary	39 (4.5)
PUC	18 (23.0)
UG/PG	09 (44.0)

*Socioeconomic status as per Modified B G Prasad classification-2016

sleeping (7.7%), and other activities which included handling animals (14.8%).

The pattern of site of domestic injury found was hands (31%), legs (25.8%), foot (14.2%), arm (13%), knee (9.6%), and others (6.4%). Most of the injuries occurred during evening (29.6%) and afternoon (27.8%) and least in the morning hours (16.8%). About 32.9% of them neglected their injuries, 22.6% got first aid at their homes (antiseptic application or dressing at home), 19.3% followed home remedies (application of turmeric or oil at home), and 25.2% visited doctor for the treatment (Table 2).

Affection of daily activities and work life due to domestic injuries is depicted in Table 3. Out of 155 injured persons, daily activities were affected in 73 (47%). Among these 73, majority of them (56.1%) had restriction of daily activities for <7 days and only 2.8% had restriction for more than 30 days. Work life was affected in 50 persons (32.2%). Among these, majority (60%) of them had loss of work for <7 days, and among 6%, work loss was for more than 1 month.

Table 4 shows association of risk factors with occurrence of domestic injuries. Domestic injuries were more in 20-39 years age group, but there was no statistically significant association between age and injury ($\chi^2 = 1.199$, $P = 0.753$, $df = 3$). Similarly, more injuries were seen in males compared to females, but there was no significant association ($\chi^2 = 0.247$, $P = 0.619$, $df = 1$). Injuries were more common among people belonging to Class III socioeconomic status, and the difference was found to be statistically significant with $\chi^2 = 20.661$, $P < 0.001$ at $df = 3$.

DISCUSSION

This study was intended to know the pattern of domestic injuries among the study participants. Most common type of injury was abrasion (34%), followed by fall (25.8%), laceration (13%), animal bite (10.6%), burns (9.6%), fracture (6.4%), and poisoning (0.6%). Most commonly found injury was abrasion (34.2%), most common mode of injury was due to falls (44%), and most common time of occurrence of injury was evening (29.6%). The most common site of occurrence of injury was hands (31%). Injuries were more common among people belonging to Class III socioeconomic status, and the difference was found to be statistically significant with $\chi^2 = 20.661$, $P < 0.001$ at $df = 3$.

In our study, the most common injury found was abrasion (34.2%) and least occurred was accidental poisoning (0.6%) which was in contrast to a study done in Tamil Nadu by Kumarasamy and Prabhakar^[3] in which most common domestic injury found was minor cuts/laceration (61.2%) and least common was fracture (2%). This difference in the finding in our study is because abrasion was considered as

Table 2: Pattern of injuries by type, mode, activity, site, and time of injury among study participants (n=155)

Questions	Number (%)
Type of injury	
Burns	15 (9.6)
Fall	40 (25.8)
Fracture	10 (6.4)
Abrasion	53 (34.2)
Laceration	20 (13.0)
Poisoning	01 (0.6)
Drowning	00 (0.00)
Animal bite	16 (10.4)
Mode of injury	
Sharp	44 (28.3)
Fire	19 (12.3)
Fall	68 (44.0)
Bite	16 (10.3)
Others	08 (5.1)
Activity during injury	
Domestic work	57 (36.8)
Playing	40 (25.9)
Bathing	23 (14.8)
Sleeping	12 (7.7)
Others	23 (14.8)
Site of injury	
Hand	48 (31.0)
Arm	20 (13.0)
Leg	40 (25.8)
Knee	15 (9.6)
Foot	22 (14.2)
Others	10 (6.4)
Time during injury	
Morning	26 (16.8)
Afternoon	43 (27.8)
Evening	46 (29.6)
Night	40 (25.8)
Treatment received	
Neglected	51 (32.9)
First aid at home	35 (22.6)
Home remedies	30 (19.3)
Visited doctor	39 (25.2)

different entity which could be due to fall as well as sharp objects. Most common mode of injury in the present study was due to falls (44%) followed by sharps (28.3%). It was in contrast to a study done by Kommula and Kusneniwar^[8] in Andhra Pradesh, India, in which most common injury was due to sharp objects (32.2%) and followed by falls (26.9%). The reason for difference in these results could be due to more number of children and adolescent participants in our study who are more prone for falls. A study done by Bansal and

Table 3: Affection of daily activities and work life due to domestic injuries

Questions	Number (%)
Did it affect daily activities	
Yes	73 (47.0)
No	82 (53.0)
Days of daily activity affected (days)	
<7	41 (56.1)
7-14	20 (27.4)
15-30	10 (13.7)
>30	02 (2.8)
Work life affected	
Yes	50 (32.2)
No	105 (67.8)
Days of work life affected (days)	
<7	30 (60.0)
7-14	07 (14.0)
15-30	10 (20.0)
>30	03 (6.0)

Table 4: Association of factors with domestic injury

Risk factor	Injury		χ^2	P
	Yes	No		
Age (years)				
0-19	56 (77.8)	16 (22.2)	1.199	0.753
20-39	59 (80.8)	14 (19.2)		
40-59	26 (72.2)	10 (27.8)		
>60	14 (73.7)	05 (26.3)		
Gender				
Male	106 (78.5)	29 (21.5)	0.247	0.619
Female	49 (75.4)	16 (24.6)		
Socioeconomic status				
II	25 (65.8)	13 (34.2)	20.661	<0.001
III	74 (78.7)	20 (21.3)		
IV	48 (80.0)	12 (20.0)		
V	14 (73.7)	05 (26.3)		

Dalal^[10] also had similar finding wherein injuries due to fall were 33%. In respect of poisoning, our finding was similar to the findings observed by Sirohi *et al.*^[11] at Indore, Madhya Pradesh, India, wherein it was the least common domestic injury/accident.

In the present study, the most common time of occurrence of domestic injuries was in the evening (29.6%) followed by afternoon (27.8%). This finding was similar to the finding in Tamil Nadu, India, study by Kumarasamy and Prabhakar in which most of the injuries occurred in the afternoon (35.2%).^[3] Our findings, however, were at variance to a study done in Andhra Pradesh, India, by Kommula and Kusneniwarin in which most of the injuries

occurred in the morning hours (73.6%).^[8] The most common activity during the time of injury in our study was domestic work (36.8%) followed by playing (25.9%) which was in contrast to a study done by Krishna *et al.*^[5] in Mysore Karnataka, India, in which most common activity during occurrence of injury was playing (28.7%) followed by domestic work (28.1%). The sequence variation found in our study may be due to consideration of many activities such as cooking, cleaning, handling children, and kitchen gardening as domestic work.

Most common site of domestic injury in our study was in hands (31%) followed by legs (25.8%) which was similar to the study done in Tamil Nadu, India, by Kumarasamy and Prabhakar^[3] in which most common site was hands (42%) followed by legs (20%). This could be due to the fact that most of the work done in and around house, involve the use of hands (upper limbs). In our study, it was also found that 32.9% of those who got any type of domestic injury neglected it. Moreover, only a small number (25.2%) visited hospital for proper treatment. This finding was at variance to the findings of the study done by Radhakrishnan and Nayeem in Salem, Tamil Nadu, India,^[7] wherein most of the injured persons received hospital treatment (82.4%) and only 17.6% used home remedies. The difference in treatment-seeking behavior in our study could be due to less awareness regarding ill effects of injuries.

The strength of our study is that not only pattern of domestic injuries but also many other factors such as time, site, activity and loss of daily activity, and loss of work were included and analyzed. The limitations of the study were, it was not a prevalence study as convenient sampling was used and was a cross-sectional study in which participants were not followed up.

CONCLUSION

The most common type of injury found in our study was abrasion followed by falls. Accidental fall was the important factor leading to domestic injuries. In our study, domestic injuries mostly occurred in the evening (29.6%) and afternoon (27.8%). Among injured participants, 43% had restriction of daily activities which shows the level of morbidity caused by these injuries though majority of them were minor in nature. As much as 32.2% of participants had loss of work due to their injuries which is significant economic loss to the injured and their families. Regular health education activities need to be imparted among rural population to create awareness about the domestic injuries and their ill effects. In such sessions, safety measures to prevent them needs highlighting. Target audience is especially women, children, and elderly who are more prone for such injuries. Care while cooking and handling animals; keeping harmful chemicals away from children needs emphasis.

REFERENCES

1. Aggarwal R, Singh G, Aditya K. Pattern of domestic injuries in a rural area of India. *Internet J Health*. 2009;11(2):1-6.
2. Ramesh Masthi NR, Kishore SG; Gangaboriah. Prevalence of domestic accidents in the rural field practice area of a medical college in Bangalore, Karnataka. *Indian J Public Health*. 2012;56(3):235-7.
3. Kumarasamy H, Prabhakar VR. Prevalence and pattern of domestic injuries in rural area of Tamil Nadu. *Int J Health Allied Sci*. 2016;5:215-9.
4. Park K. Preventive and social medicine. *Accidents and Injuries*. 24th ed. Jabalpur: M/S Banarasi Das; 2017. p. 423-31.
5. Krishna DS, Channabasappa AN, Dhar M. Prevalence of domestic accidents in rural India: A cross sectional study. *Sch J Appl Med Sci*. 2014;2(2):657-9.
6. George S, Paul N, Francis PT, Leelamoni K. Prevalence of domestic accidents in a rural area of Kerala: A cross sectional study. *Int J Community Med Public Health*. 2017;4(4):1-5.
7. Radhakrishnan S, Nayeem A. Prevalence and factors influencing domestic accidents in a rural area in Salem district. *Int J Med Sci Public Health*. 2016;5(8):1688-92.
8. Kommula VM, Kusneniwar GN. A study of domestic accidents in the rural area of South India. *Int J Curr Microbiol Appl Sci*. 2015;4(4):764-7.
9. Divya BV, Jayasree TM, Felix AJ. A study on occurrence and risk factors of domestic accidents in South India. *Int J Community Med Public Health*. 2016;3:2387-92.
10. Bansal M, Dalal S. Unintentional injuries in rural area - A community based study in rural Bhopal. *Natl J Community Med*. 2013;4(3):449-53.
11. Sirohi S, Pandey D, Dixit S, Jain C, Deshmankar B, Raja RS. Domestic accidents: An emerging threat to community. *Int J Med Sci Public Health*. 2015;4:1202-5.

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