RESEARCH ARTICLE

PROFILE OF UNINTENTIONAL INJURY AMONG UNDER-FIVE CHILDREN IN COASTAL KARNATAKA, INDIA: A CROSS-SECTIONAL STUDY

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ABSTRACT
Background: Childhood injury is a rising public health problem and cause of both financial and psychological strain on the family.
Aims & Objectives: The study aims to determine the prevalence of unintentional injuries among under-five children attending the anganwadis in Udupi Taluk.
Materials and Methods: A cross-sectional study was conducted from October to November, 2014. Time frame located convenient sampling method was adopted and a total of 95 mothers of children under-five were interviewed by using interviewer administered semi-structured questionnaire.
Results: The results revealed that the prevalence of unintentional injury among under-five children attending the anganwadis was 46.3% and the commonest causes of the injuries were due to falls followed by burns and animal bites. Majority of the injuries were among boys (72.7%) and the most common site of injury was found to be the lower extremity. Nearly half of the respondents (50.5%) were not aware how to provide first aid with respect to unintentional injury among children.
Conclusion: The prevalence of unintentional injuries among under-five children was high and majority of the mothers were practicing some form of preventive measures. Intensive health education activities for mothers on the causes and prevention of childhood injuries would be helpful in tackling unintentional injuries. Mass awareness campaigns on first aid using the media can be a good step forward.
Key Words: Under-Five Children; Unintentional Injury; Anganwadi

Introduction

In this world, every child matters. Injuries among children are an emerging public health problem. Accidental injuries are one of the leading causes of death, hospitalization and disability across the world.[1] Dramatic changes in lifestyle, increased motorization, relative softness of body parts of children, psychological characteristics like impulsiveness, experimentation, lack of knowledge on judgment of speed and low level of concentration make children more vulnerable to injuries.[2] More than 95% of all injury-associated deaths among children take place in low-income and middle-income countries.[1] South-East Asia Region contributes 31% to world burden and 27% of injury related mortality.[2] In 2004, WHO estimated about 0.8 million deaths in India were due to unintentional injuries.[1]

Injuries and accidents are the most important causes of death globally. The burden of childhood injury in India has not been clearly explored. Data from National crime records bureau and few independent studies have revealed that, nearly 15-20% of injury related deaths occurs among children.[5] Children's environment plays a critical role, both in the occurrence and severity of an injury. Most injuries take place near homes and the most common injuries are falls, burns, poisoning, drowning, road traffic accidents and suffocation.[6]

The study aims to find out the prevalence of unintentional injury among children under the age of five attending anganwadi centres in Udupi taluk and to describe the profile of injury. A secondary objective was formulated to understand the knowledge and practices of mothers of under-five children with respect to prevention of unintentional injuries.

Materials and Methods

A descriptive cross-sectional study was conducted in Udupi Taluk among the mothers of under-five children. The study was conducted between October and November 2013 with time frame convenient sampling method. 14 anganwadi centres were selected conveniently and those mother were included who were willing to share information. A total of 95 participants were interviewed by using predesigned semi-structured questionnaire developed after literature review.[3] Written informed consent was obtained from the participants and interview was conducted in the local language of the respondents.

Data Analysis: Data was analysed using SPSS version 15 (SPSS Inc, Chicago, Illinois). Descriptive were reported in the form of frequencies and proportions. Chi-square test was used to find the associations.

Results

Prevalence of unintentional injury: Out of total, 46.3% of the respondents reported an unintentional injury in their child in the past 4 weeks. (Table 1)

Socio-demographic characteristics: Less than half of the respondents (42.1%) belonged to age group of 26-30 years with a mean age of 30.86 ± 0.673 years. Majority (85.3%) of the respondents were Hindus, and nearly one third (30.5%) of the respondents reported completion of high school education. Majority of the respondents (71.6%) were house wives, and more than half of the respondents (52.6%) lived in a joint family structure.

Determinants of unintentional injury: The factors associated with injury status were type of family (p-value = 0.01), presence of elders at home (p-value = 0.004) and number of siblings (p-value = 0.03). (Table 2)

Table-1: Prevalence of unintentional injuries (n=95)

Unintentional injury	N (%)
Yes	44 (46.3)
No	51 (53.7)

Table-2: Association between socio-demographic characteristics and injury status (n=95)

Variables	Category	Recent Injury		p-value
		Yes (n=44) N (%)	No (n=51) N (%)	
Age of mothers	20-25	8 (18.2)	6 (11.8)	0.81
	26-30	17 (38.6)	23 (45.1)	
	31-35	12 (27.3)	13 (25.5)	
	>35	7 (15.9)	9 (17.6)	
Religion	Hindu	36 (81.8)	45 (88.2)	0.44
	Muslim	5 (11.4)	5 (9.8)	
	Christian	3 (6.8)	1 (2)	
Education of the mother	Illiterate	4 (9.3)	5 (9.8)	0.86
	Primary	11 (25.6)	13 (25.5)	
	High school	15 (34.9)	14 (27.5)	
	College/ Above	13 (30.2)	19 (37.3)	
	Missing value	1		
Education of the father	Illiterate	2 (4.7)	6 (11.8)	0.19
	Primary	14 (32.6)	8 (15.7)	
	High school	16 (37.2)	24 (47.1)	
	College/ Above	11 (25.6)	13 (25.5)	
	Missing value	1		
Occupation of the mother	Not working	33 (75)	35 (68.6)	0.5
	Working	11 (25)	16 (31.4)	
Family type	Nuclear family	27 (61.4)	18 (35.3)	0.01*
	Joint family	17 (38.6)	33 (64.7)	
Per capita Monthly income	<5000	10 (22.9)	10 (19.6)	0.978
	5001-10000	17 (38.6)	20 (39.2)	
	10001-20000	14 (31.8)	17 (33.3)	
	>20000	3 (6.8)	4 (7.8)	
Presence of elders at home	Yes	15 (34.9)	34 (66.7)	0.004*
	No	28 (65.1)	17 (33.3)	
	Missing value	1		
Number of siblings	No	10 (22.7)	25 (49)	0.03*
	One	29 (65.9)	22 (43.1)	
	Two plus	5 (11.4)	4 (7.8)	

Table-3: Injury profile among under-five children (n=44)

Injury profile		N (%)
Age (years)	≤3	18 (40.9)
	>3	25 (56.8)
	Missing value	1
Sex	Male	32 (72.7)
	female	12 (27.3)
Type of injury	Fall	24 (54.5)
	Burn	19 (43.2)
	Bite	1 (2.3)
Site of injury	Head, face	9 (20.5)
	Upper extremity	10 (22.7)
	Lower extremity	25 (56.8)
Severity of injury	Mild	37 (84.1)
	Moderate	6 (13.6)
	Severe	1 (2.3)
Presence of disability	Yes	4 (9.1)
	No	39 (90.9)
Place of injury	Home	32 (72.7)
	Outside	12 (27.3)
Situation during injury	Alone	10 (22.7)
	Existence of 2nd person	33 (72.7)
	Missing value	1

Table-4: Distribution of respondents according to the awareness about first aid (n=95)

Variable	Category	N (%)
Aware about first aid	Yes	47 (49.5)
	No	48 (50.5)
Sources of information (n=47)	Health worker	16 (34)
	Elders	11 (23.4)
	Media	9 (19.2)
	Others (friends, relatives, books)	11 (23.4)

Profile of injury: Majority (56.8 %) of the children were in the age group of more than three years. Nearly three fourth (72.7%) of the injured children were boys and more than half of the respondents (54.5%) reported the cause of injuries to be due to falls. The predominant site of injury was the lower extremity (56.8%). Majority of the injuries (84.1%) were mild and 90.9% of the injuries did not cause any disability. Nearly three fourth (72.7%) of the injuries occurred when there was presence of supervision. (Table 3)

Awareness about first aid: Nearly half of the respondents (49.5%) were aware of first aid provision. 34% mothers had received information about first aid from the health worker, followed by the media (19.2%).

Awareness on causes of injury: Majority of the respondents (95.8%) had awareness on falling and more than a half (54.2%) of them knew about burns. The other potential causes of unintentional injuries as stated by the mothers were sharp objects (29.2%), animal bites (13.5%), drowning (8.8%), road traffic accidents (8.4%), poisoning (3.1%) and aspiration (2.1%).

Preventive measures adopted to prevent unintentional injury: Half of respondents (52.6%) reported adopting preventive measures to prevent falls

by keeping the floor clean and dry followed by constant supervision. Majority (70.5%) had reported they kept sharp objects away from the reach of children to prevent injuries. More than half of the respondents (62.1%) stated that they tried to prevent injuries due to burns by restricting access to open fires, hot objects and by covering plug points. Only 8.4% of the mothers reported that they keep stray dogs away from the house to protect their children from dog-bites. Nearly a third of the respondents (33.7%) stored poisonous items safely away from their children's reach. Likewise, 4.2% of the mothers reported covering the water tanks and wells. Nearly one third of the mothers (33.7%) reported that time constraint was a major barrier to adopt preventive measures in daily life.

Discussion

The present study revealed that the prevalence of unintentional injury was 46.3%. A study conducted by Zaidi et al.[5] in Tamil Nadu reported the prevalence of injury to be 14% among under-five children. But another study from Egypt by Eldosoky et al.[4] described the prevalence of home related injury as 38.3%. The present study showed that nearly half of the injuries (56.8%) were in the age group of more than three years.

The study showed that majority of the injured children were boys (72.7%) and this was similar to a study conducted by Eldosoky et al.[4] where the boys sustained the more injuries (57.5%). With regards to type of injury, the current study revealed that falls represented the highest percentage of injury (54.5%) followed by burns (43.2%). This conforms to a previous study done by Zaidi et al,[5] where majority of the injuries had arisen due to falls (32.4%).

The study also revealed that more than half of the injuries (56.8%) had occurred in the lower extremity. But a study by Zaidi et al.[5] revealed that injuries in the lower extremity and head, face and neck were equally distributed (35.3%). According to the severity of injury, the current study revealed that 84.1% of the injuries were of mild nature and this was similar to a study conducted by Zaidi et al.[5] where the majority (65%) of the injuries were mild. The current study showed that majority (72.7%) of the injuries occurred at home and this concurred with a study done by Zaidi et al.[5]

The majority (49.5%) of the respondents in this current study were not aware about first aid and health worker (34%) was the main source of information. A study by Eldosoky et al.[4] revealed that 73.4% of the respondents knew about first aid and 56.1% reported that media was their primary source of information.

The present study has some limitations. Due to small sample size, the results cannot be generalized. Recall bias with reference to minor injuries could not be ruled out.

Conclusion

The prevalence of unintentional injury was found to be higher among the under-five children and majority of the mothers were practicing some form of preventive measures. Only half of the participants knew about first aid related to unintentional injuries. Intensive health education activities for mothers on the causes and prevention of childhood injuries would be helpful in tackling unintentional injuries. Mass awareness on first aid can be promoted through mass media campaign.

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