

Socio-Demographic Correlates of Unintentional Injuries at Household Level Among Under-Five Children in Urban Faridkot

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ABSTRACT

Introduction: Unintentional injuries are major causes of morbidity and mortality in children, resulting in over 630,000 deaths annually in children less than 15 years of age in 2011. Worldwide, South-East Asia (SEA) alone contributes to 31% of the burden of injury and 27% of injury related mortality. In India, injuries are the fourth leading cause of death in children under 15 years age. Therefore, the present study was conducted to measure the burden of household level injury of under-five children in an urban area of Faridkot, Punjab, India, to identify major risk situations in or around home leading to injury proneness, and to explore environmental risks, if any, among the study participants.

Method: It is a cross-sectional study of 115 mother-child duo of under-five children in urban slums of Faridkot. House to house survey was conducted after taking informed consent and relevant information was collected using semi-structured questionnaire.

Results: In urban area out of 115 subjects, history of injury was present in 56% cases and out of that in 88% presence of caregiver was there and the severity of injury was moderate to

severe type in 7% subjects and when the chi-square test is applied, it comes out to be highly significant.

Conclusions: The present study concludes that the unintentional injuries are among major cause of morbidity in under-five children.


Key Words: Unintended Injuries, Under-Five, Household.

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INTRODUCTION

Childhood injury is a leading global public health problem.¹ Dramatic changes in lifestyle, increased motorization, relative softness of body parts of children, psychological characteristics like impulsiveness, experimentation, lack of knowledge on judgement of speed and low level of concentration make children more vulnerable to injuries. More than 95% of all injury associated deaths among children take place in low-income and middle-income countries.

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, poisonings, drowning and suffocation.² There has been considerable speculation that inadequate supervision may be an important contributing factor for understanding childhood injuries.³

The unintentional injuries among under-five gives rise to loss of years of life and productivity, high financial burden to health care system, high household level out of pocket expenditure, substantial psychological impact on the child and family members and many other adverse consequences.² In low and middle-

income countries (LMICs), young children face different types of household level hazards due to challenging living conditions such as poor housing infrastructure, unsafe storage places for harmful substances, lack of barriers to cooking and washing areas, use of open fires and stoves^{4,5} thus making the child vulnerable to unintentional injury. This is even more important for the under-five children who spend major span of the day at home and cannot judge the potential risk owing to their immaturity.⁶

Unintentional injuries are major causes of morbidity and mortality in children, resulting in over 630,000 deaths annually in children less than 15 years of age in 2011.¹ Worldwide, South-East Asia (SEA) alone contributes to 31% of the burden of injury and 27% of injury related mortality.⁷ In India, injuries are the fourth leading cause of death in children under 15years age.⁸ National Crime Bureau and few independent studies reveal that nearly 15%-20% injury deaths occur in children.⁹

Many household level injury risks are avoidable requiring environmental modification which can be done with minimal efforts, suited to the affordability and feasibility for the family.

However, there is a dearth of research work with comprehensive household level injury hazard identification for children in lower-income settings.¹

With this background, this study was conducted with the objective to estimate the proportion and risk profile of unintentional injuries at household level among under-five children in urban area of Faridkot, Punjab, India.

MATERIALS AND METHODS

The study was a cross-sectional study conducted in urban and rural field practice area for a period of one year. Study population was mother-child duo of children of under-five years of age. All the mothers of under-five children who gave a written consent for participation were included in the study and if the selected household found to be locked at the time of the survey, Respondent aged less than 18 years in the selected household, Household where mother was not available, Children who had a physical and sensory disability or a significant developmental delay, Injury as a result of interpersonal violence were not included.

Sampling: The households having under-five children in the urban and rural field practice areas comprises the sampling frame with household with under five children as sampling unit. A total of 280 mother child Duo were included in the study taking Prevalence of unintentional injury among under-five children 20%¹², Confidence limit of 95%, Margin of sampling error 5%. So for true representation of both the groups the study sample was taken in the ratio of 1:1.7.(20) Thus sample was divided into 115 urban children and 165 rural children. The present study depicts only urban data of the parent study.

Data Collection Tools: A self-designed pre-tested Household survey questionnaire was used for demographic profile, house description and injury profile. A standard pretested freely available questionnaire on household level injury hazard assessment checklist was used.

Methodology: A list of all under-five children residing in the study area was prepared from the survey register of the respective ANMs of urban and rural health centre. The participants (under-five children) were selected randomly (using random numbers) from the prepared list. House to house survey was conducted in the selected field practice areas. Informed written consent was taken from the caregiver before beginning of one to one interview. The relevant information about demographic profile of the family, unintentional injuries, various risk factors associated with the unintentional injuries, house description for risk assessment was collected. If the selected household failed to give informed consent for participation in the study or the household was locked or no family member above the age of 18 years was present in the

household at time of the interview, immediate next house with under-five child was included in the study.

Data Analysis: The collected data was compiled and tabulated by using manual tables, Microsoft excel and using suitable statistical software. The data was analyzed in the light of suitable statistical tests as applicable.

Ethical Considerations: After obtaining approval from the research committee, ethical approval was obtained from ethical committee of the institution. A written consent from respondent was obtained for participation in the study. Confidentiality was maintained at all levels. The filled study tools were stored under lock and key and will be destroyed no later than 12 months after data collection is over. During storage the access to them was strictly restricted.

RESULTS AND DISCUSSION

Table-1 depicts distribution of injury according to socioeconomic class. Out of 115 subjects, majority i.e. 48(60%) injuries were present in upper-lower socioeconomic class followed by lower-middle: 15(18.8%), upper-middle: 12(15%), upper: 4(5%) and lower: 1(1.3%) socioeconomic class. whereas Bhuvanewari B et al showed that there is an inverse association between socioeconomic status and injury. Poorer families are more vulnerable and exposed to hazards in and outside the home, thus increasing vulnerability to injury among their children. This may be due to the reason that injuries among children are observed and managed well when it occurred in high socio- economic status while due to socio economic constraints mild to moderate injuries were remain unnoticed in middle and low socioeconomic class. Some of the factors inherent to social deprivation that increase the risk of child injury include floor level, cooking, poor storage of hazardous materials such as kerosene, lack of safe play areas, supervision of young children by their older siblings and lack of appropriate safety measures in and around the home. This situation also pertains in lower socioeconomic areas in developed countries such as Australia and the United Kingdom, especially for RTIs. Table-2 depicts house description according to presence of injury and out of total 115 houses, injury is present in 67(83.8%) houses with enclosed courtyard, 55(68.8%) houses with separate kitchen, 80(100%) houses with bathroom within house or courtyard, 80(100%) houses with toilet, 27(33.8%) houses with balcony, 56(70%) houses with stairs, 79(98.8%) houses with less than or equal to two floors and 1(1.3%) house with more than two floors.67(83.8%) own houses and 13(16.3%) rented houses.20(25%) houses with less than 10years old and 60(75%) more than 10years old houses, 53(66.3%) houses with less than or equal to three separate rooms and 27(33.8%)houses with more than three separate rooms.

Table 1: Distribution of Injury According to Socioeconomic Class

Socioeconomic Status Class	Injury				p-value
	Present		Absent		
	No.	%	No.	%	
Upper	4	5.0%	0	0.0%	>0.05
Upper-Middle	12	15.0%	5	14.3%	
Lower-Middle	15	18.8%	4	11.4%	
Upper-Lower	48	60.0%	26	74.3%	
Lower	1	1.3%	0	0.0%	

Table 2: Distribution of Injury According To House Description

Variable	Response	Injury				p- value
		Present		Absent		
		No	%	No	%	
Enclosed courtyard	Yes	67	83.8%	31	88.6%	>0.05
	No	13	16.3%	4	11.4%	
Separate Kitchen	Yes	55	68.8%	23	65.7%	>0.05
	No	25	31.3%	12	34.3%	
Bathroom within house or courtyard	Yes	80	100.0%	35	100.0%	>0.05
	No	0	0.0%	0	0.0%	
Toilet	Yes	80	100.0%	35	100.0%	>0.05
	No	0	0.0%	0	0.0%	
Balcony	Yes	27	33.8%	7	20.0%	>0.05
	No	53	66.3%	28	80.0%	
Stairs	Yes	56	70.0%	21	60.0%	>0.05
	No	24	30.0%	14	40.0%	
Floors	<=2	79	98.8%	35	100.0%	>0.05
	>2	1	1.3%	0	0.0%	
Ownership of house	Own	67	83.8%	33	94.3%	>0.05
	rented	13	16.3%	2	5.7%	
age of house	<10y	20	25.0%	7	20.0%	<0.05
	>10y	60	75.0%	28	80.0%	
Separate rooms	<=3	53	66.3%	29	82.9%	>0.05
	>3	27	33.8%	6	17.1%	

Table 3: Distribution of Severity Of Injury According To Presence Of Caregiver

	Mild		Moderate		Severe		p-value
Presence Of Caregiver	105	100.0%	9	100.0%	1	100.0%	<0.05
Absence Of Caregiver	0	0.0%	0	0.0%	0	0.0%	

Table-3 illustrates caregiver and severity of injury. Mild injury is present in 105(100%) houses, moderate injury in 9(100%) houses and severe injury in 1(100%) house with presence of caregiver. whereas study conducted by Sheriff A, Rahim A et al showed higher proportion of unintentional injuries among children left alone or with friends. This may be due to the possibility that child feels free in the presence of caregiver and risk-taking behaviour increases in their presence. Moreover, our source of information about injury were mothers themselves so those injuries which were there in the absence of caregiver remain unnoticed.

Study conducted by Atak N et al showed 65.1% accidents occurred in the presence of the mother. The average number of risks defined by the mothers was found to be associated with the age of the child, educational background of the mother, her occupation, type of family, and monthly family income.

Study conducted by Sharma SL et al revealed that children of working mothers (OR 1.48; 1.01–2.18) and children from overcrowded families (OR 1.78; 1.22–2.60) had increased odds of sustaining unintentional injuries. There is an increase in incidence rate of injuries with an increased environmental hazard risk, although not statistically significant.

CONCLUSION

The present study concludes that the unintentional injuries are among major cause of morbidity in under-five children that too among preventable causes. Most of the children who land up in severe type of unintentional injuries carries some form of

deformity or disability for whole of their life span. Injuries remain unnoticed and unmanaged in lower socioeconomic class. Moreover, presence of caregiver is also one of the predisposing factors for injuries as child feels free in the presence of caregiver and risk taking behaviour increases. Rather we should train children to avoid risk taking while playing and channelize this energy into safe and constructive activities.

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