Knowledge, Attitude and Practices Regarding First Aid against Domestic Injuries in Mothers of Children less than 5 Years of Age Attending Fauji Foundation Hospital Islamabad

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Abstract

Background: The objective is to assess the knowledge, attitude and practices regarding first aid towards home related injuries among mothers of children less than 5 years of age at tertiary care hospital of Islamabad.

Methods: A questionnaire based cross sectional study was conducted in Fauji Foundation Hospital Islamabad. 400 participants were selected using convenience sampling the mother of children under 5 years of age were included and mother of children with any major co morbidity, congenital abnormalities and who didn't give consent were excluded from the study. A pretested, structured, self-administered questionnaire was used for data collection after obtaining permission from Institutional Ethical Committee. Statistical analysis was carried using SPSS version 20. Frequencies and percentages were computed, descriptive statistical analysis was done. Chi-Square was applied for association between socio demographic variables and knowledge of mothers regarding first aid.

Results: About 44% of the mothers and 63% children fall in age group of 31 and 2-5 years respectively. Half of the mothers (48%) are below intermediate level of education. About 34% of the respondents stated bleeding as most urgent and important injury requiring first aid. Regarding attitudes, 50% of the mothers strongly agree towards necessity of first aid and lack of awareness about dealing with domestic injuries. Sixty-five (65%) of the mothers had given first aid to their child. About 33%, 75%, 44% and 39% of the mothers have faced a child with difficulty in breathing; bleeding, burning and insect/sibling bite respectively. Age of mother ($p=0.041$), education of mother ($p=0.001$) and total no of children ($p=0.001$) were significantly associated with knowledge of first aid.

Conclusion: Although home accidents are a common problem, mother's knowledge regarding home accidents was deficient although majority of the respondents have positive attitude

Keywords: First aid, injuries, knowledge, attitude, practices

Introduction

Childhood injuries are very serious health problem that need immediate attention. These injuries are the major killer of children causing 950,000 deaths each year (1) Children are more prone to such unintentional injuries because of their developing bodies and yet not aware of both themselves and environmental dangers (2). The most common injuries experienced in children under age of 5 includes: - fall, choking, burns, poisoning, accidents (3).

According to national safe kids campaign in the US 40% of deaths & 50% of non-lethal injuries occur at home (4) for example in 1998, the overall rate of indoor injuries among children under 5 years of age was 72.5% (5).

According to a report by the UNICEF Innocenti Research Centre, in Asia alone, the estimated rate of mortality of children, aged up to 18 years, due to injuries exceeds 1,000 per 100,000 people (6). Injury alone accounts for almost one half of all deaths in preschool aged children in the USA (7).

According to the National Health Survey of Pakistan 1990-1994, non-fatal injuries among children less than five years are 49 per 1,000 children per year (8). The common causes of home accidents include burn injury which is a leading cause of unintentional injuries in children; falls as fall from bed, sofa or crib on stairs, slippery floors, from high windows, or from tipping furniture; choking; poisoning and toxic substances that may be found under the kitchen sink, in the medicine cabinet, in the garage or garden shed, or even in a purse or other place where medications are stored; suffocation; some home accidents occur where there's water in the bathroom, kitchen, swimming pools, or hot tubs; and less commonly firearms.(9)

First aid is the provision of immediate care to a victim with an injury or illness, usually affected by a lay person, and performed within a limited skill range. Immediate provision of first aid to victim can marks a big difference to outcome as first aid provide at time of emergency management averts the course and complications of injuries (10).

A study performed in 14 Europeans countries revealed that main hurdle in adopting preventing measures is inability of mothers to take care of their children throughout a day and inadequate knowledge about factors involved in injuries (11).

Parents knowledge and practice toward emergency management is especially important for children particularly mother's as she spent most of the time with her children at home. Educating parents about first aid is important in injury care for children, as many adverse consequences of injuries can be prevented if parents know what actions to take at right time.

The objectives of this study were to assess the knowledge and attitudes of mothers regarding first aid practices and to determine the factors associated with knowledge of first aid in mothers.

As this study only involves the mothers from one hospital so it cannot be generalized to entire population. However, this study can serve as a pilot study and similar study can be conducted by taking representative sampling to generalize the findings on entire population of Pakistan.

Methodology

This was a questionnaire based cross sectional study conducted in Fauji Foundation Hospital Islamabad from July to September. Study area is Islamabad which is the capital of Pakistan having an estimated population of 1,163,584 in 2021 according to World Population Review (12) while specifically the study site will be Fauji Foundation Hospital on which majority of the population of rural community adjacent to vicinity is dependent. Study population will be the mothers of children less than 5 years of age from the study area. The sample size was estimated using WHO calculator. Subjects were chosen using non-probability convenience sampling technique. The minimum sample size of 400 females was based on the anticipated prevalence of 50%, required precision of 5%, and 95% confidence interval. The inclusion criteria included mother of children under 5 years of age. However, mother of children with any major co morbidity, congenital abnormalities and who didn't give consent were excluded from the study. The Questionnaire was adapted from the study done in Ethiopia. Some modifications were done in the questionnaire after extensive literature review of the local culture and environment. The following information was collected: the first part included demographics (such as age, education, employment, and marital status), the second part included Knowledge of the respondents towards first aid, third

part consisted of attitude towards first aid and the final part is about practices of the respondents regarding first aid. The data was entered and analyzed through SPSS version 20. Frequency tables, percentages and summary statistics were used for descriptive statistics. The results were expressed as proportion in appropriate tables and graphs. Chi-square test was used to determine whether the observed differences were statistically significant. $P < 0.05$ was considered significant.

The study protocol was approved by the local institutional review board (i.e. Foundation University Medical College Islamabad). Informed consent was taken from the participants before the data collection. The names and personal information of the participants was kept strictly confidential. There will be no monetary compensation to study participants. Data was used solely for the purpose of the study. Project will be beneficial to the community in the long run.

Results

Of the respondents, majority of the participating mothers in our research were of ages 31 years and above (44.25%), while 20.50% mothers were of ages between 20-25 years. The study reveals that the mothers who participated in the research were mostly graduates (26.25%) and uneducated mothers constitute 13% of the total, while mothers with primary education were in the range of 11.75%. The children ages in our study was ranging from birth to 5 years with majority of children falling in the category of 24 months old (63.75%) and (6.25%) were below one year. Monthly Income(father) reported of the participants are as given: (with 39% having maximum income Rs. 31000 & above): 8.50% with income below Rs. 15000: 29.25% with income ranging from Rs. 21000-30000 and 23.25% having income Rs. 16000 to 20000.

Table 1. Socio demographic characteristics of the respondents

Variables	Percentages (n)	Variables	Percentages (n)
Mother's Education		Monthly Income	
Uneducated	13(52)	Below 15,000	9(34)
Primary	11(47)	16,000–20,000	29(117)

Middle	24(94)	21,000–30,000	23(93)
Intermediate	26(102)	Above 31,000	39(156)
Graduate	26(105)	Age of child	
Age of mother		0-12 months	28(112)
20-25 years	21(82)	12-24 months	63(255)
26–30 years	(13541)	2-5 years	8(33)
Above 31 years	44(177)	Type of Family	
Father's profession		Nuclear	45(181)
Self-employed	30.9 (34)	Joint	55(219)
Labourer	52.7 (58)		
Other	16.4 (18)

Figure 1. Injuries requiring First Aid

Study showed that according to the mothers, first aid is to be provided mostly in injuries that result in bleeding (33.75%). While other injuries require less attention such as Bite (5.5%), Burns (8.75%), Choking (5.75%), neck and back injuries (6.5%), swallowed poisons/ chemicals (5.25%) and breathing difficulty (4.75%).

Table 2. Respondents' Attitude towards First Aid

Variables	Strongly Agree No. (%)	Agree No. (%)	Disagree No. (%)	Strongly Disagree No. (%)
First aid kit is necessary in every home	253(63)	138(34)	3(0.8)	6(1.5)
Giving first aid is not good	277(69.3)	65(16.3)	30(7.5)	28(7)
It is important for me to learn first aid	245(61.3)	148(37)	2(1.8)	5(1)

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It is the responsibility of mothers to give first aid care for children in need	246(61.5)	143(35.8)	7(1.8)	4(1)
Taking all precautions to prevent home accidents is necessary	262(65.5)	128(32)	7(1.8)	3(0.8)
There is lack of awareness about dealing with domestic injuries	223(55.8)	163(40.8)	7(1.8)	7(1.8)

Table 3. Factors Associated with Knowledge about First Aid among Mothers

Variable	Non-Knowledgeable (n=216)	Knowledgeable (n=184)	P-Value
Age of Mother			0.041*
20-25 years	43	39	
26-30 years	87	90	
31 and above	89	52	
Level of Education			0.001*
Illiterate	34	18	
Primary	30	17	
Middle	62	32	
Intermediate	57	45	
Graduation	36	69	
Source of Information			0.061
Friends and Family	44	28	
Health Providers	27	31	
Media	54	67	
Books	11	28	
Others	1	6	
No of Children			0.001*
1-2	75	90	
2-3	105	85	
>5	7	35

Figure 2. First aid practices of the respondents in case of child with difficulty in breathing.

Out of 400, 33% (133) of the mothers have faced a child with difficulty in breathing.

Figure 3. First aid practices of the respondents in case of child with bleeding.

Majority of the mothers 75% (301) have faced a child with bleeding.

Figure 4. First aid practices of the respondents in case of child with burn.

Out of 400, 44 % (175) of the mothers have faced a child with burning.

Table 4. First Aid Practices of Respondents on Different Cases

VARIABLES	N	PERCENTAGES (%)
Faced a child with choking (n=400)		
• Yes	100	25
• No	300	75
Action taken (n=100)		
• called EMS/ambulance	19	4.8
• checked for choking	18	4.5
• stood behind the child encircling the child chest	38	9.5
• continued until the object is expelled	9	2.3
• contacted responsible neighbor	11	2.8
Back or head injury from a fall (n=400)		
• Yes	210	52.5
• No	190	47.5
Action taken (n=210)		
• called ambulance	48	12
• laid the child and restrict the movement	47	11.8
• checked child position immediately	45	11.3
• contacted responsible neighbor	16	4
• avoided head and neck movement	29	7.3
Faced a child with chemical/poison swallowing (n=400)		
• Yes	72	18
• No	328	82
Action taken (n=72)		
• called EMS/ambulance	21	5.3
• induced forced vomiting	11	2.8
• kept airway clear and monitor breathing	27	6.8
• contacted responsible neighbor	3	0.8
• gave nothing by mouth	5	1.3

Discussion

Unintentional home-related injuries continue to be a major cause of death, ill health and long-term disability among children, but are largely preventable

through appropriate information and safe practices. (13)

When socio demographic characteristics of mothers were observed, it was found that 44 % were in the age group of 31 years and above. This finding is similar with a study conducted in Sharkia Governorate in which highest percentage of mothers (35.3%) were in age group of 25 - 35 years (9).

Regarding education of the mothers, about 50% were educated and only 13 % were illiterate as this study was conducted in urban community. This contradicts with the study done by Hussein in which more than half of the mothers (52.6%) were illiterate which was done in rural area (14).

In our study, in spite of the importance of a topic like first aid, 26% of the mothers had not heard the term. While a study done by Sonavane shows a very high proportion (65.7%) of the mothers who had never heard about first aid (10). This might be due to the high education of mothers as only 13% of the mothers were illiterate in our study.

Regarding source of information about first aid, 30% of the mothers got information through media. The result is similar with a study held in Egypt where mass media was the main source of knowledge for 43.3% of participants (15). This might be attributed to very strong influence of mass/social media on public now days.

According to our study, bleeding is the major injury requiring first aid (34%) which is in accordance with the study conducted in Sharkia according to which most common (37.3%) of injuries were of bleeding (14). This contradicts with the study done by Abd El-Aty in which wounds were the most common accidents among the studied children (16).

The current study shows there is significant association between the education of mother and knowledge about first aid. This may be due to the reason that educated mothers significantly maintain the safety precautions at home and put dangerous things out of the reach of children. Similarly, Oladunjoey also shows positive association between mother's education and first aid knowledge (17).

The mothers having less no of children (1-2) are more knowledgeable as compared to those having more children. This may be due to the reason as mother' with more children dedicates less time for the upbringing and care of child. Similarly results of the study done by Somaye Younesian revealed that mothers with three or more children exhibit poorer

preventive behavior due to shorter duration of time allocated by mother's to their children's care. (13)

Regarding attitudes of the respondents, 62% shows positive attitude towards first aid. This result is in line with the study in KSA where nearly 62% of mothers have positive attitude towards first aid (18). Mother's attitude towards not engaging in first aid practices may be attributed to their feeling of low vulnerability of child's injury and they could ensure their child's safety by close supervision.

About 69% of the mothers had exposure of first aid requiring cases out of which 63.8% mothers actually practiced it.

In our study, 75.3% mothers faced a child with bleeding out of which 44.8% pressed firmly with clean bandage to stop the bleeding. According to an Indian study, turmeric powder was the most common intervention in bleeding from cut wounds (19).

In this study, among 43.8% mothers who faced a child with burn injury only 19% used anti burn ointment immediately and 13.5% cases used cold water fomentation as mostly the respondents were educated so they are not using non-medical remedies for the first aid. A study in Riyadh showed that 32% of parents cured them with less scientific mixtures like egg white, honey, toothpaste etc. (20). Study conducted in rural area of south India showed application of coconut oil, toothpaste, butter that mainly result in wound infections (21).

Mothers who faced a child with choking were 25 % out of which 9.5% stood behind child encircling child's chest. While a study conducted at Al-Khobar city, 80.8% did not have knowledge about CPR, which is very important in handling choking (22).

Regarding mothers' practices in case of choking, poisoning, insect bite, and burn, results of the current study showed that mothers who are going to hospital immediately without any first aid practice constituted 4.8%, 5.3%, 2.3% and 2.5% respectively and this opposes with study done by Hossein who reported rather higher percentages 20%, 20.7%, 12.7% and 14.7% respectively (15).

Conclusion

Although home accidents are a common problem among children under 5 years of age, mothers' knowledge regarding home accidents was deficient in this regard.

The knowledge of the mothers towards first aid is found to be low although majority of the respondents have positive attitude.

Significant association was found between knowledge about first aid and mothers with higher educational status and less no of children.

Limitations

First is the unavoidable recall bias, which arises because of the data collection's inevitably retrospective nature. It only involves the mothers from one hospital so it cannot be generalized to entire population.

However, this study can serve as a pilot study and similar study can be conducted by taking representative sampling to generalize the findings on entire population of Pakistan. As it is a cross, sectional study temporality cannot be established. A longitudinal study can be conducted to establish stronger association.

Recommendations

Promotion of Health education of mothers regarding first aid practices. Lady health workers should be trained and utilized to educate mothers by implementation of first aid training programs. Moreover health planners and providers should extend assistance and essential information to mothers about appropriate first aid practices.

More emphasis on research activities in all aspects of first aid practices against common domestic injuries should be given.

Acknowledgement

The authors acknowledge all the concerned persons and the participants without the cooperation of whom it would not be possible to complete the study.

Conflict of interest: The authors declare no conflict of interest

Source of Funding: The authors declare no source of Funding

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