

KNOWLEDGE, ATTITUDE AND PRACTICES OF MOTHERS TOWARDS HOME ACCIDENTS AMONG CHILDREN IN HOLY KERBALA CITY

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ABSTRACT

Children's injuries at home are increasingly being recognized as a public health issue that may be avoided with improved awareness, safe practices, and improvements to the home environment. Preschool children are particularly vulnerable to home accidents, and providing information to mothers about how to protect their children in the event of an accident has a significant influence on reducing the number of injuries among children. The goal of this study was to assess the mother perception toward home accidents among children and determine the mothers' baseline knowledge, attitudes, and practices about home accidents in their children and to find out the relationship between the mother perception toward home accidents among children and demographic data. 368 women who attended outpatient pediatric clinics at the Maternity and Children Hospital in Karbala Region were studied in a cross-sectional study. Mothers' sociodemographic factors, knowledge, attitude, and practices about home accidents were all included in a self-administered questionnaire. All of the results were given a good, fair, or poor rating. Mothers were given health education messages. The study's findings revealed that over two-thirds of participants (63.28 percent) rely on social media for information regarding home accidents. More than a third (35.9%) had insufficient knowledge, roughly 38% had a positive attitude, and less than a third (29%) had suitable practices in the event of a house mishap. There was no significant correlation between mothers' KAP scores and their ages. However, Working mothers and those with a university education had much higher knowledge and attitude scores. Mothers who had had first-aid training and had a history of child injury at home were considerably more educated and practiced proper first-aid procedures. Participants from families with a greater income had more proper practices. Protecting children from domestic violence requires a multifaceted approach. In addition to combined government and community efforts, an intervention is required to bridge the knowledge gap and enhance mothers' attitudes and practices.

KEYWORDS: Knowledge, Attitude, Practices, Home accidents.

INTRODUCTION

Thousands of children die each year as a consequence of accidents around the world, and millions more are admitted to hospitals as a result of injuries caused by accidents that result in lifelong disability. [1] Accidents disrupt a person's everyday life by affecting their physical, psychological, and social health, and can result in diseases, disabilities, or even death. Mishaps can occur in a variety of settings, but the home is the most common venue for accidents involving children.[2] Because records are insufficient and data from hospitals alone does not represent all

relevant figures, it is believed that the number of home accidents is greater than traffic and occupational accidents. The actual number of accidents and associated harms cannot be accurately established because records are insufficient and data from hospitals alone does not represent all relevant figures. [3] Children's injuries resulting from home accidents are rapidly being recognized as a public health issue, and their prevention is critical for both individuals and society, but has, regrettably, been generally ignored. [4]

Injury is the second biggest cause of mortality in Iraq; however, little is known about the frequency and effects of home injuries, which are becoming a concern as emergency department visits rise. [5] Furthermore, with each new technological or cultural shift that may represent people's character and lifestyle, new patterns of harm attributable to domestic mishaps occur. [6] The majority of these accidents can be avoided by improving the home environment, which has a key influence in the occurrence and severity of injuries, as well as greater awareness and safe behaviors. [7,8]

Burn injuries are a leading cause of unintentional injuries in children; falls from a bed, sofa, or crib on stairs, slippery floors, high windows, or tipping furniture; choking; poisoning and toxic substances found under the kitchen sink, in the medicine cabinet, in the garage or garden shed, or even in a purse or other place. Suffocation; water in the bathroom, kitchen, swimming pools, or hot tubs; and weapons are less prevalent causes of home accidents. [9,10]

Preschool years are a critical period in a child's development, and preschool children are especially vulnerable to home accidents and injuries due to their natural desire to explore their surroundings and their inability to recognize the dangers of their actions, which can result in death or disability. [11]

Parents are frequently aware of potential harm hazards in the home. They are, however, uninformed of the magnitude of the child injury problem and do not consider injury risk in their daily contacts with their children. They are responsible for providing a safer home environment, taking precautionary measures, and auditing the safety of children's living places while closely supervising them. [12]

At home, mothers are always in direct contact with their children, especially from infancy until preschool. Information regarding safety measures in home accidents, especially for mothers, is particularly important in injury care for children and in reducing the frequency of injuries among children, as many negative outcomes of injuries can be avoided if mothers know what to do. [11,13] We concentrated on injuries that are known to happen to young children at home, such as chemical and detergent poisoning, electric shock, burns, and wounds caused by sharp equipment, particularly those found in the kitchen. The goal of this study was to find out what mothers with children aged 2 to 6 years know, believe, and do about home accidents.

MATERIALS AND METHODS

During the months of January to October 2021, a cross-sectional study was done on 368 mothers who attended outpatient pediatric clinics at the Maternity and Children Hospital in Karbala Region. Iraqi moms with children aged 2 to 6 years old who were present at outpatient pediatric clinic appointments were the study's target demographic. Non-Iraqi mothers who were illiterate, refused to participate in the study, had children who were extremely unwell, had chronic debilitating illnesses, presented for pre-operative clearance, or had children who were not within the study's age range.

Study instrument

After a thorough search of the literature on home accidents, a self-administered questionnaire in Arabic was created based on the most recent available information from the World Health Organization, the Centers for Disease Control and Prevention, similar related papers, and the Iraq Ministry of Health websites. The first draft was forwarded to a group of specialists who were selected based on their experience and competence in related subjects to assess the questions for relevancy, simplicity, and importance. A pilot study of 20 moms was done to verify the questionnaire's validity and make any necessary changes, and the questionnaire was finished after a series of group discussions. The data of pilot study was not included in this study.

- The questionnaire was broken into four sections: - The first section focused on the mothers' socio-demographic traits.
- - The second section identified mothers' sources of information and assessed their level of understanding about home accidents. There were six things total, each with multiple choice questions. With an overall score of 12 that assessed high knowledge (score 9–12), fair knowledge (score 6–8), or poor knowledge (score 0–5), the entire right answer was given (2 points), the partial answer was given (1 point), and the wrong answer/don't know was given (0 point) for each issue.
- - The third section assessed their attitudes concerning home accidents (n=9) using a 3-point Likert scale of agreement (agree, uncertain or disagree). “Agree to a positive attitude question or “Disagree to a negative attitude question” received a score of 2, “Uncertain” received a score of 1, and “Disagree to a positive attitude question or “Agree to a negative attitude question” received a zero score. As a result, the overall score was 18, which was divided into three categories: good attitude (scoring 14–18), fair attitude (score 9–13), and poor attitude (score 0–8).

-The fourth section evaluated their self-reported practices regarding home accidents (n=7) using (yes, no, or sometimes) options with an overall score of 14 (2, 1 or 0 for correct, sometimes, or incorrect responses, respectively) that was graded as good (score 11–14), fair (score 7–10), or poor (score 0–6). All scores were categorized as good (> 75 percent of the total), fair (50-74 percent), or poor (less than 50 percent).

During the visits, 500 questionnaires were developed and delivered to the mothers. At the time of submission, each questionnaire was checked for missing data and a trial run was conducted in the presence of the respondent to ensure that each question was answered. A total of 368 completed surveys were collected, giving a response rate of about 73.6 percent of all questionnaires sent.

Statistical analysis

SPSS version 21.0 was used to analyze the data (SPSS Inc., Chicago, IL, USA). For quantitative data, mean and SD were employed, but for qualitative variables, number and percentage were used. To analyze differences in means of quantitative variables, independent samples t-test and One-Way ANOVA tests were utilized in analytic statistics. The statistical methods were checked using a p0.05 significance level.

RESULTS General characteristics

The study included 368 moms who attended outpatient pediatric clinics at the Maternity and Children Hospital in Karbala Region. About 35.16 percent of the mothers were between the ages of 20 and 30, 42.97 percent were between the ages of 31 and 40, and the remaining (21.88 percent) were beyond 40. More than half of them (58.59%) were unemployed, had a university education (57.81%), and had more than two children aged 2 to 6 years (54.69 percent). The vast majority (79.69%) lived in Karbala and in a flat (86.72 percent). A little more than half of them (45.31 percent) had a monthly family income of 300000 – 1000000 dinar, about 60% had a history of child injury at home, and one-fourth had previous first-aid training. (Table 1).

Table (1): General characteristics of the studied sample.

Variables		Studied sample (No. = 368)	
		No.	%
Age (years)	20 - 30	129	35.16
	31 - 40	158	42.97
	> 40	81	21.88
Occupation	Working	152	41.41
	Not working	216	58.59
Education	Primary/Intermediate	35	9.51
	Secondary	121	32.88
	University	212	57.61
Residence	Inside Karbala	293	79.69
	Outside Karbala	75	20.31
Housing	Flat	319	86.72
	Villa	35	9.38
	Popular house	14	3.91
Family income/month (dinar)	< 300000	100	27.17
	300000 – 1000000	167	45.38
	> 1000000	101	27.45

No. of children (2 – 6 years)	One	104	28.13
	Two	63	17.19
	More than two	201	54.69
Previous first aid training	Yes	92	25.00
	No	276	75.00
History of child injury at home	Yes	223	60.60
	No	145	39.40

Source of knowledge

Nearly two-thirds of participants rely on social media as a source of information on home accidents, with doctors/nurses coming in second and books and newspapers coming in third (17.97%). Table (2).

Table (2) Source of knowledge of the studied sample about home accidents.

	Studied sample(No. = 368)	
	No	%
Social media	233	63.28
Doctor / Nurse	164	44.53
TV and radio	132	35.94
Neighbors and friends	95	25.78
Books and newspapers	66	17.97

Knowledge

Mothers' awareness of several aspects of home accidents is frequently poor. When it comes to the best place to store detergents, 71.88 percent of women are aware that they should be put in a high cabinet; nevertheless, only 7.81 percent are aware that if their child has a burn, they should apply cold water fomentation and anti-burn ointment. Similarly, only 4.69 percent of mothers correctly understand what to do in the event of a short circuit, which includes turning off the power, seeking assistance, and inspecting their injured child's airway; 10.94 percent of mothers correctly understand the precautions needed for preventing domestic injuries, which include warning children of potential hazards, Only 3.13 percent of mothers accurately know that in the event of a gas leak, they should turn off the gas supply, phone their gas supplier, and open doors and windows. Approximately 71% of moms are unaware of what to do in the event of chemical poisoning and should avoid stomach washing, forced vomiting, or providing acids such as lemon juice. Table (3).

Table (3) Knowledge of the studied sample about home accidents.

Knowledge	Right answer No. (%)	Incomplete answer No. (%)	Wrong answer No. (%)
The suitable place to save detergents.	265 (71.88)	43 (11.72)	60 (16.41)
What to use if the child has a burn?	29 (7.81)	267 (72.66)	72 (19.53)
What to do in the event of a short circuit?	17 (4.69)	293 (79.69)	58 (15.63)
Precautions for prevention of domestic injuries.	40 (10.94)	311 (84.38)	17 (4.69)
What to do in the event of a gas leak?	12 (3.13)	339 (92.19)	17 (4.69)
What to do in cases of chemical poisoning?	60 (16.41)	46 (12.50)	262 (71.09)

Attitude

In terms of mothers' attitudes toward home accidents, all participants agreed on the importance of having a first-aid kit in every home, the vast majority (99.22 percent) agreed on the importance of taking necessary precautions to prevent home accidents, and the majority (89 percent–93 percent) considered the psychological impact of domestic accidents on the child.

Around 30% of those polled were unsure whether they should use an electric or gas stove. the lack of understanding regarding coping with domestic injuries and the quick response when calling an ambulance/emergency services Around 18% of moms were concerned that they would be unable to react appropriately in an emergency. Table (4).

Table (4) Attitude of the studied sample towards home accidents.

Attitude	Agree	Uncertain	Disagree
	No. (%)	No. (%)	No. (%)
Taking all precautions to prevent home accidents.	365 (99.22)	3 (0.78)	0 (0.0)
Use electric stove rather than gas stove.	152 (41.41)	112 (30.47)	104 (28.13)
Rapid response when calling the ambulance /emergency services.	221 (60.16)	115 (31.25)	32 (8.59)
There is a lack of awareness about dealing with domestic injuries.	242 (65.63)	109 (29.69)	17 (4.69)
I trust my ability to act properly in emergencies.	152 (41.41)	150 (40.63)	66 (17.97)
Domestic accidents affect child psychologically.	339 (92.19)	20 (5.47)	9 (2.34)
It is important to attend courses to deal with domestic injuries.	328 (89.06)	29 (7.81)	12 (3.13)
It is important to transfer my experience in dealing with domestic injuries to those I know.	342 (92.97)	20 (5.47)	6 (1.56)
First aid kit is necessary in every home.	368 (100.0)	0 (0.0)	0 (0.0)

Practices

According to mothers' self-reported practices regarding home accidents, 91 percent of them keep their children away from detergent and 85 percent make sure there is no gas leakage when replacing the cylinder.

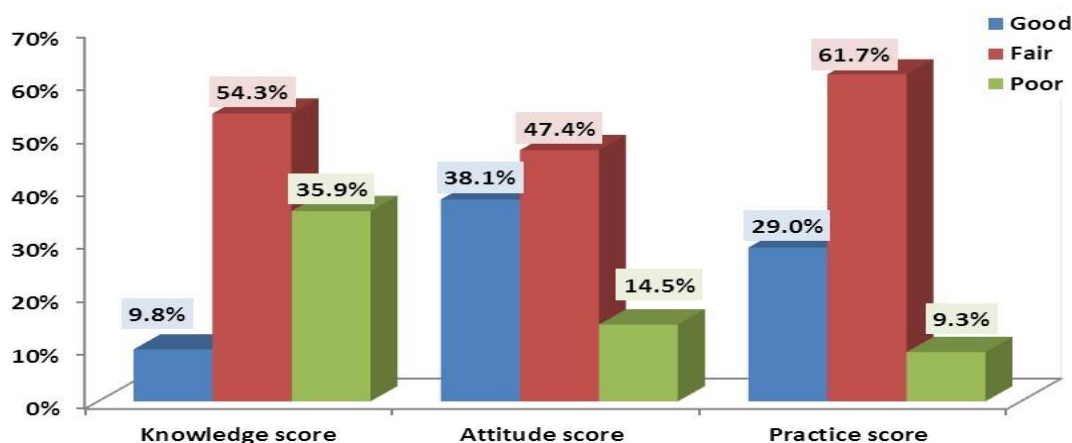
When their children suffer a domestic injury, 58.5 percent of mothers go to the hospital. Nearly a quarter of moms (23.44 percent) connect multiple items to one socket incorrectly, and 35.16 percent fail to check the fire extinguisher's validity. Approximately two-thirds of moms (63– 66%) do not leave their children alone at home and teach their families and friends how to deal with domestic accidents. Table (5).

Table (5) Practices of the studied sample regarding home accidents.

Practices	Yes	Sometime s	No
	No. (%)	No. (%)	No. (%)
I go to hospital when my child has a domestic injury.	216 (58.59)	147 (39.84)	6 (1.56)
I keep children away when detergent is used.	336 (91.41)	29 (7.81)	3 (0.78)
I ensure that there is no gas leakage when changing the cylinder.	313 (85.16)	35 (9.38)	20 (5.47)
I connect multiple devices with one socket.	86 (23.44)	175 (47.66)	106 (28.91)
I ensure that the fire extinguisher is always valid.	150 (40.63)	89 (24.22)	129 (35.16)
I leave my children alone at home.	29 (7.81)	106 (28.91)	233 (63.28)
I teach family and friends how to deal with domestic injuries.	244 (66.41)	89 (24.22)	35 (9.38)

Overall KAP score

More than a third (35.9%) of mothers have poor knowledge, roughly 38% have a good (positive) attitude, and less than a third (29%) have good (appropriate) practices, according to the overall KAP score of mothers about home accidents. Figure (1).

**Figure (1): KAP scores of the studied sample about home accidents.****Other relations**

There is no significant difference in KAP scores of moms and their ages among those who attended first aid training and had a history of child. Working mothers and those with a university education, on the other hand, scored much higher on knowledge and attitude. Mothers who were injured at home were far more knowledgeable and used necessary procedures.

Participants from families with a greater income had more proper practices. Table (6).

Table (6) Relation between characteristics of the studied sample and different scores.

Variable		knowledge score (Max.=12)	Attitude score (Max.=18)	Practice score (Max.=14)
Age (years) ²	20 - 30	5.60 (1.39)	13.64 (1.92)	10.51 (2.36)
	31 - 40	5.85 (1.59)	14.05 (1.89)	9.31 (2.18)
	> 40	6.14 (1.48)	14.18 (1.76)	9.89 (2.30)
	P-value	0.321	0.414	0.543
Occupation ¹	Working	6.46 (1.61)	13.62 (1.86)	9.74 (2.45)
	Not working	5.17 (1.40)	11.37 (1.76)	9.35 (2.12)
	P-value	< 0.001*	< 0.001*	0.104
Education ²	Primary/Intermediate	5.10 (1.57)	12.25 (1.86)	8.67 (2.48)
	Secondary	5.69 (1.51)	12.45 (2.06)	9.26 (2.14)
	University	6.96 (1.94)	13.16 (1.73)	9.54 (2.30)
	P-value	< 0.001*	0.001	0.091
Family income/month ² (Riyal)	< 5000	5.83 (1.29)	12.08 (1.64)	8.86 (2.51)
	5000 – 10000	5.78 (1.61)	12.21 (1.84)	9.21 (2.11)
	> 10000	5.91 (1.54)	12.54 (1.37)	9.64 (2.05)
	P-value	0.792	0.127	0.044*
Previous first aid training ¹	Yes	6.31 (1.80)	13.23 (1.61)	11.13 (2.09)
	No	5.67 (1.36)	12.84 (1.86)	10.30 (2.29)
	P-value	0.004*	0.073	0.002*
History of child injury at home ¹	Yes	6.65 (2.18)	12.23 (2.14)	10.36 (2.11)
	No	5.18 (2.06)	11.84 (2.59)	9.80 (1.72)
	P-value	0.001	0.117	0.008*

Values presented as mean \pm SD.

¹: Independent Samples t test. ²: One-Way ANOVA test. * Significant

DISCUSSION

In the present study, was to determine the baseline KAP of mothers with children aged 2 to 6 years old in the Karbala Region when it came to home accidents

Source of knowledge

Nearly 63 percent of moms rely on social media for information regarding home accidents, while nearly a third (35.94 percent) rely on television and radio. In Egypt, 56.1 percent of rural women relied on TV/radio as a source of information about home accidents [11], and in another Indian survey, TV/radio accounted for 45.8%. [15] In all trials, all of the mothers were willing to receive first-aid training. Many individuals today consider social media to be a simple and widely accepted means for knowledge transfer, but questions about information quality, longterm impact, and synergies between social media and evidence-based practice remain unaddressed. [16]

Knowledge

In this survey, mothers' overall understanding of home accidents was largely insufficient, with just 9.8% of them having good knowledge. Because they still had domestic accidents, this low number may reflect how closely they oversee their children. This could be explained by mothers' incapacity to regulate the situation, resulting in mishaps due to circumstances beyond their control, as well as the pressures of modern society, which drastically reduces time spent with children in the ordinary home. [17]

Our findings corroborated those of Lafta et al., who found that Iraqi mothers lacked understanding about how to protect their children from household accidents. [18] A Chinese study found similar results, concluding that parental understanding of accident prevention and safety promotion was inadequate. [19] These findings, however, contradicted the findings of an Iranian study that examined the adoption of preventative measures for home injuries by 230 women with preschool children, in which 75 percent were found to have adequate knowledge. [20] In the same vein, the findings published by Carlsson et al. did not reflect our findings, as they observed high median scores for mothers' sufficient awareness and taking adequate child accident prevention steps at home. [9]

Our findings demonstrated that moms' knowledge of where to keep hazardous materials and detergents out of reach of youngsters was accepted (71.88 percent). In a previous Iraqi study conducted in Jeddah, it was discovered that the majority of homes kept detergents and prescriptions in a high or locked cabinet. [15], and a Brazilian study found that storing dangerous chemicals in the home below 150 cm was linked to a 17-fold greater risk of poisoning in children when compared to a control group. [20] In contrast to our findings, mothers' understanding of safety procedures needed to keep chemical materials and detergents out of reach of children was shown to be quite low, potentially resulting in poisoning or other significant consequences accidents. [18]

When our participants were asked what to use/do if their child experienced a burn, a short circuit, or a gas leak, only 7.81 percent, 4.69 percent, and 3.13 percent had proper answers, respectively. In reality, inadvertent house burns involving hot water and food are most common in young children, while direct flame burns become more common as they become older. [10] Similarly, only 11.6 percent of moms in Baghdad City had good understanding on how to keep their children safe from fire. [18]

The range of electrical injuries affecting children in the home is wide, ranging from minor injury to serious multi-organ involvement and death [25], with over 70% of mishaps occurring in children aged 0 to 5. [26] Canadian women who protect their children from electrical appliances had better results (63%) than other mothers. [11]

The kitchen is considered the most dangerous place for children in almost all Iraqi houses since it has gas supply, either cylinders or pipelines. Sirohi et al. investigated the occurrence of a domestic disaster and understanding of how to prevent it in an Indian urban neighborhood, finding that 74 percent of families knew what to do in the event of a gas leak and that 68 percent were always present while cooking on gas. [12] Similarly, the average knowledge score for precautions to be taken in the event of a gas leak among homes in an Iranian rural community was 4.1 out of a possible 8 points. [8]

Attitude

Nearly 62 percent of moms had a fair/poor attitude regarding home accidents, according to the findings. In his study, Aktürk found that moms of children who had been in a house accident had higher negative views and actions ($p < 0.05$). [30] In a separate Turkish study, women with children aged 0 to 6 years were found to be incapable to prevent home mishaps. [14]

Mothers' attitudes toward not engaging in home safety practices may be influenced by their belief that their child's vulnerability to injury is low, that they can ensure their child's safety through close supervision, and that their child understands basic safety rules and will therefore behave in ways that are to ensure his or her own safety. [16]

In fact, persuading parents to change their attitudes and engage in more safety practices is difficult, and the relationship between attitudes and health-related decisions may be influenced by risk perceptions, cost-benefit analysis, and the role of social norms in shaping an individual's attitudes and behaviors. Passive measures such as well-designed structure, product safety laws, stairgates, window locks, and smoke and carbon monoxide detectors, according to some researchers, are more helpful in preventing injuries than attempts to change parents' attitudes and behaviour. [5, 11]

Practices

Although our participants' overall good knowledge score was low (9.8%), roughly 29% of them reported right practices, which could be explained by social desirability bias. In reality, enhancing parents' safety practices necessitates encouraging them to make home environment changes and encouraging them to engage in more active safety-promoting actions. Selfmotivation (58.1%), perceived danger (37%), avoiding being scolded by their husbands (32.7%), lesson from other people's experiences (29.9%), and self-experience were some of the factors that influenced mothers with pre-school children to adopt preventive practices at home, according to Arulogun et al (21.8 percent).^[3]

Morrongiello and Kiriakou discussed how mothers can protect their children from various forms of injury. Kid and parent traits that put the child at risk of damage were the primary determinants of engaging mothers in preventative measures for burns, cuts, and falls injuries. For drowning, poisoning, suffocation, and choking, health beliefs about the severity of the potential injury, as well as the amount of effort required to implement preventive measures, all played a role in predicting mothers' practices. They concluded that the factors motivating mothers to take precautionary measures at home varied depending on the type of injury.^[9]

General characteristics and KAP scores

Working mothers and those with higher education had significantly favorable knowledge and attitude, mothers who attended first aid training and had a history of child injury at home had significant good knowledge and proper practices, and mothers with higher family income had significant good knowledge and proper practices, according to an analysis of possible factors affecting mothers' KAP scores and the association with some socio-demographic variables.

Many researchers from various locations looked into these relationships, with some parallels and variances. According to studies conducted in Egypt[36], Singapore[37], and Turkey[38], a higher degree of education among mothers statistically enhanced knowledge in preventing home accidents among children. Other studies found that housewives with higher education, higher economic status, and those who had not experienced an accident at home had significant preventative attitude and behavior scores, as did those who had a university education, were health care personnel, or had taken a first aid course.^[19]

Eldosoky discovered that Egyptian women who were younger, had a university or postgraduate education, worked in health-related occupations, had a higher socioeconomic position, and had completed a first-aid training course had the highest KAP ratings. He speculated that mothers with a university education may be more health-conscious and motivated to read child-care texts or enroll in first-aid training classes. [11] Megahed et al. found a substantial positive association between mothers' practice and their education or socioeconomic status, as well as a significant correlation between socioeconomic status and mothers' knowledge or attitude concerning home injuries.^[18]

In contrast to our findings, Hatamabadi et al. discovered that higher education, work, and daily absence from home for at least eight hours were all characteristics associated with inadequate knowledge and attitudes on domestic injury prevention. [20] In addition, Lafta et al discovered that mothers' knowledge of injury prevention was inversely related to their years of education, suggesting that highly educated mothers are more likely to be employed and absent from home for a significant amount of time during the day, making children more prone to accidents and mothers less enthusiastic or too busy to learn about prevention methods.^[18]

The statistical significance of the impact of socio-demographic variables on the level of KAP of mothers may be influenced by sample characteristics and geographical variance. Furthermore, Iraqi culture and traditional norms may have an impact on mothers' KAP because Iraqi women have less interaction and socializing than men and have fewer opportunities for outdoor selflearning.^[15]

The study limitations

There were some limitations to this investigation. For starters, because it is a cross-sectional study, it cannot establish a causal-effect relationship. Second, the findings are based on selfreported data that could be skewed by recollection bias, and mothers could have over-reported their injury-prevention strategies due to social desirability bias. Third, the study excluded moms who received care in other venues such as primary care clinics and the

commercial sector. Finally, the questionnaire omitted questions assessing participants' knowledge of other sorts of injuries, such as those caused by sharp instruments.

CONCLUSION

Protecting children from domestic violence requires a multifaceted approach. In addition to combined government and community efforts, an intervention is required to bridge the knowledge gap and enhance mothers' attitudes and practices. These steps will help to reduce the number of household injuries among children.

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