

Knowledge and awareness of parents in the Kingdom of Saudi Arabia regarding unintentional home injuries in children 2019 a descriptive cross-sectional study

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ABSTRACT

Aim: To evaluate the adherence of parent's preventive measures of unintentional home injury in their children by measuring the parents' knowledge and awareness regarding the risk factors of unintentional home injury. **Settings and Design:** An online questionnaire was used. The study followed a descriptive cross-sectional design. **Method and Materials:** The study was conducted between December 2019 and January 2020 included 324 participants who fulfilled the criteria during the period. An appropriate statistical test was used to register the statistical significance between the participants' answers and demographic characteristics. **Statistical Analysis:** SPSS 20.0 software package was used for entering the collected data and for statistical analysis. **Results:** Descriptive statistics showed that (66%) of participants were female. At least 50% of the participants were aged 26–35 years and had a bachelor's degree. Most reported at a good level of practice against the risk factors of unintentional home injury. The correlation between the participants' level of practice against the unintentional home injury, their age, and their level of education was statistically significant. **Conclusions:** The results showed the level of practice against unintentional home injury was significantly higher in parents their age more than forty, and those with a high educational level. This result suggested that nationwide health programs and initiatives must be toward families and parents in assessing their home hazards.

Keywords: Children, knowledge and awareness, parents, unintentional home injury

Introduction

According to the World Health organizations (WHO), unintentional injuries in children less than 18 years were 950000 deaths annually.^[1,2]

Childhood home injuries negatively impact families and overall communities.^[3] Although injuries are unintentional, cause for prevention. Parents' knowledge of unintentional home injury crucial according to past reports.^[4,5] Literatures on parenteral

behavior of preventing injury in children and commitment to these precautions in Saudi Arabia (limited).^[6,7] The aim of this study to explore the relationship between risk factors, parents' practice, and demographic factors and to estimate parents' adherence to prevention measures of unintentional home injury in their children.^[8,9]

Methods

Study design

The study followed a cross-sectional study design.

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Study setting

The current study was carried out in Saudi Arabia, which is divided into 13 administrative regions (Najran- Asir- Qassim- Jizan- Riyadh- Tabuk- Medina- Mecca- Northern Borders- Al Jawf- Bahah- Eastern Province- Hail).

Selection and description of participants

The participants of the study had been approached via an electronic questionnaire, and by using Twitter and What's App. Which are the most popular social media used sites/apps used in Saudi Arabia?

Population

The study had recruited parents who live in Saudi Arabia and have children. The inclusion and exclusion criteria.

- Inclusion criteria:
 - parents of Age of parents between 18 and 45 years.
 - Any parent with one child or more children aged 5 years
- Exclusion criteria
 - Parents who do not have children.
 - Parents and families who live outside Saudi Arabia.

Sample size and sampling process

Using Convenient sampling, 324 participants who had agreed to participate and had met the criteria were, recruited in the study. The study was conducted between December 2019 and January 2020.

Operative definition

- Injury: Any physical damage to a child that occurred because of acute exposure to a mechanical, thermal, chemical, or radiated source.
- Home injury: An injury that occurs at home.
- Unintentional injury: Injuries that take place accidentally.

Data collection

Questionnaire

The questionnaire reviewing was done by experts in different fields such as health care management, health care informatics, preventive medicine, and quality of health care. The questionnaire was translated into the Arabic language and the reliability was evaluated by measuring the internal consistency.

The questionnaire was a self-administered survey and consisted of two sections:

1. The first section included demographic data as:
 - Parents' characteristics: age, sex, level of education, residence type, salary income, and employment status.
 - Child characteristics presence of abnormal health conditions, residency status with mother or father, or both, and participation of housekeeper in caring for the children.
2. The second section included 32 closed-ended questions that

aimed to assess the level of practice of parents regarding measures preventing accidental injuries in children. Every closed-ended question got one score if a positive sign of practice was indicated, following which the total scores of each participant was calculated and was categorized to one of the three categories as follows:

- Poor practice if the calculated total score was 60% (in percentage)
- Good practice if the calculated total score was 60–80% (in percentage)
- Excellent practice if the calculated total of 80% (in percentage)

Ethical considerations

This research study recruited Saudi parents that met the criteria. Conducted between December 2019 until January 2020. After getting approval from the IRB committee in KFMC on May 27, 2019 (IRB log number: 19 303), the collection of data has been started. The questionnaire was disseminated via the internet with the consent form to be signed before starting answering the questions in the questionnaire. The confidentiality of participants kept safely during the whole research process.

Statistical analysis and management of data

The SPSS 20.0 software was used for statistical analysis and processing of data. In the different stages of data processing and coding, control of quality has been made. Data were shown in different forms of descriptive statistics and the statistical significance was assessed by Chi-square between the demographic characteristics of the participants and the level of practice.

Results

Characteristics of the participants

A total of 324 participants who fit the criteria of the study and half were aged between 26 and 35 years. Most of the participants lived in apartments and 2/3rd of the respondents (66%) were female. Nearly 50 of the participants had a bachelor's degree at least. Also, 50% of the participants had a salary income of < 10,000 Saudi Riyals [Table 1].

27% of the participants from the Mecca province and 59% were employed [Figure 1].

[Table 2] illustrates that most of the children of the participants (85%) resided with both (father and mother), (75%) had no baby sitter, and only (10%) of children had abnormal health conditions.

Around (63% of the participants) reported using a good level of practice against unintentional home injury.

The correlation between the participants' level of practices and their demographic characteristics are shown in [Figure 1] (n = 324).

[Table 3] demonstrates statistically significant associations between the participants' level of practice against unintentional home

injury, their ages, and their levels of education (P-value < 0.05). Hence, most of the participants of a high age or high level of education had good to excellent levels of practice against unintentional home injury. However, there was no statistical significance between the participants' level of practice and other demographic characteristics.

Table 1: Demographic characteristics of the participants (n=324)

Demographic Characteristics of Parents	Frequency	Percent
Age		
18-25 years	25	7.7
26-35 years	153	47.2
36-45 years	146	45
Sex of Parent		
Male	126	39
Female	198	61
Educational level		
Basic/Intermediate	21	6.4
Secondary	64	19.8
University	181	55.9
Master/PHD	58	17.9
Salary Income		
<10,000 SR	162	50
10,000-15,000 SR	81	25
>15,000 SR	81	25
House Type (Accommodation)		
Low class house (traditional house)	30	9.3
Apartment (flat)	192	59.3
Villa	102	31.5

Table 2: Characteristics of the participants' children (n=324)

Characteristics of children	Frequency	Percent
Residence of child		
With father	5	1.5
With mother	43	13.3
With both	276	85.2
Presence of babysitter for caring		
Yes	81	25
No	241	75
Presence of abnormal health conditions		
Yes	34	10.5
No	290	89.5

Multivariate logistic regression analysis of the variables having a significant association with the level of practice in the bivariate analysis indicated that those belonging to the age group from 26 to 35 years were 1.5 times more likely [odds ratio of 1.46 (95% CI 0.969–5.971)] to have a good level of practice against unintentional home injury than those aged < 25 years; Moreover, Participants who had a high level of education from bachelor's degree to Master's or Ph.D. degree were three times more likely to have a good level of practice against unintentional home injury than those who had a basic or intermediate level of education [Table 4].

Discussion

One of the important roles of family medicine or primary care physicians is preventive care which includes the different three levels of prevention such as screening of patients for DM, management of diabetic patients to prevent complications, screening for colon cancer, screening for breast cancer, and other things.^[10,11]

The prevention of injury in children is one of the important elements in the well-baby clinic in primary health care to do counseling for parents about the prevention of injuries, education parents about risk factor and causes that leading to injury, and educate them how to avoid the injuries, from this point we can see the relevance between this study and the practice of primary care physicians. In which this study for assessing the parent's practice towards those risk factors and if they have enough knowledge to prevent the injury.^[12,13]

Now I will move to discuss the demographic characteristics of participants and their children study the class age between

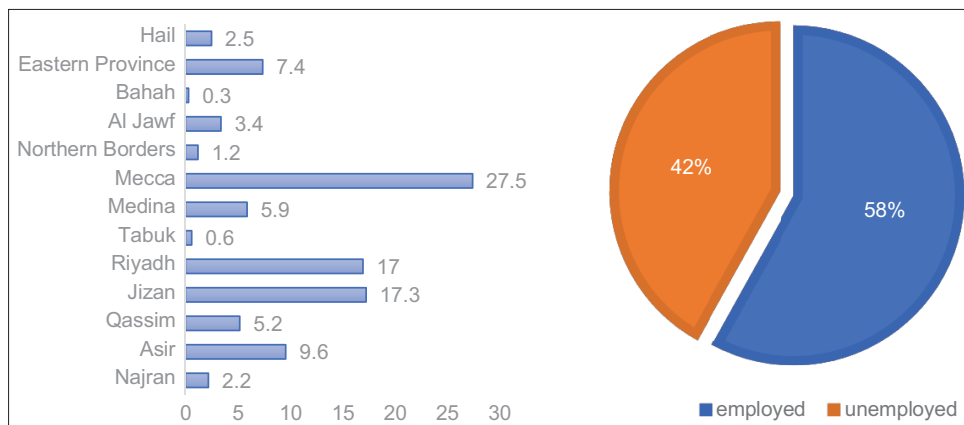


Figure 1: Percentages of participants among the 13 provinces of Saudi Arabia, and their employment status (n = 324)

Table 3 Relation between participants' level of practices and their demographic characteristics (n=324)

Demographic characteristics	Level of Practice			P
	Poor	Good	Excellent	
Age				
18-25 years	7	17	6	
26-35 years	32	105	11	P=0.04*
36-45 years	40	83	23	
Sex of Parent				
Male	39	72	15	P=0.08
Female	40	133	25	
Educational level				
Basic/Intermediate	8	8	6	P=0.01*
Secondary	19	32	12	
University	37	126	18	
Master/PHD	15	35	7	
Salary Income				
<10,000 SR	37	101	24	
10,000-15,000 SR	25	50	6	P=0.49
>15,000 SR	17	54	10	
House Type (accommodation)				
Low class house (traditional house)	8	16	6	
Apartment (flat)	43	122	27	P=0.67
Villa	28	65	9	
Residence of child				
With father	6	8	8	
With mother	7	20	7	P=0.4
With both	66	165	37	
Presence of babysitter for caring				
Yes	23	52	6	P=0.12
No	56	152	35	
Presence of abnormal health condition				
Yes	8	22	4	P=0.9
No	71	183	36	

*Statistically significant at P<0.05

Table 4: Logistic regression analysis between socio-demographic characteristics (independent variables) and level of practices (dependent variable)

	B	SE	Wald	P	OR	95.0% CI for OR	
						Upper	Lower
Constant	1.7	0.84	4.1	0.04			
Age (reference: 18-25 years)							
26-35 years	0.878	0.464	3.578	0.4	1.46	0.969	5.971
36-45 years	0.67	0.56	3.78	0.7	2.01	0.56	4.897
Education (References: Basic/intermediate)							
Secondary	1.19	0.32	14.02	0.0	1.1	1.769	6.190
Highest level of education (Bachelors and Master/PHD)	0.450	0.274	2.700	0.10	3.30	0.917	2.684

Reference Category is: Poor practice. Nagelkerke R Square: 0.05. Hosmer and Lemeshow Test: P=0.551. Omnibus Tests of Model Coefficients: P<0.001. CI, confidence interval; OR, odds ratio.

26 and 35 represent 47.2%, the female more than male in participation about 61%, most of the parents in this study have a university education which they represent 55.9%, also most of the participants were living in the traditional house. Among the 13 provinces of Saudi Arabia, Mecca has the largest percentage of participants. Most children of the participants' parents were living with the mother and father represent 85%, where is that living with mother only represent 13% and who living with father only was the smallest percent 1%. The children without babysitter

represent 75%, Majority of children do not have an abnormal health condition which represents 89%. Generally, in Figure 2 a good level of practice represents 63%, poor level of practice 25%, and an excellent level of practice 12%. The highest yes and no answered questions were mentioned in [Table 5].

The second thing to discuss the answered questions about the injury precautions in Table 4 showed 92% of the participants answered yes that they keep pots and pans on the stove away

Table 5: Highest YES and NO answered questions among the participants (n=324)

	Percent
Highest YES answered questions	
Do you keep the handles of pots and pans on the stove out of the reach of children?	92
Do you keep matches and cigarette lighters out of the reach of your children?	91.7
Do you use furniture safety tools?	88.3
Have you checked the temperature of the hot water where you live?	87.7
Do you keep electrical appliances and wires out of your child's reach?	87.3
Highest NO answered questions	
Do you allow your child to swim unsupervised?	93.2
Do you leave your child at home alone?	89.2
Do you ever use woodstoves or kerosene heaters without a child guard?	89
Is there a gun in your home or the home where your child plays or is cared for?	87.7
Do you have working smoke alarms in your home?	85.2
Lowest YES answered questions	
Do you allow your child to swim unsupervised?	6.8
Do you ever use woodstoves or kerosene heaters without a child guard?	10.5
Do you leave your child at home alone?	10.8
Is there a gun in your home or the home where your child plays or is cared for?	12.3
Do you have working fire extinguishers in your home?	14.8

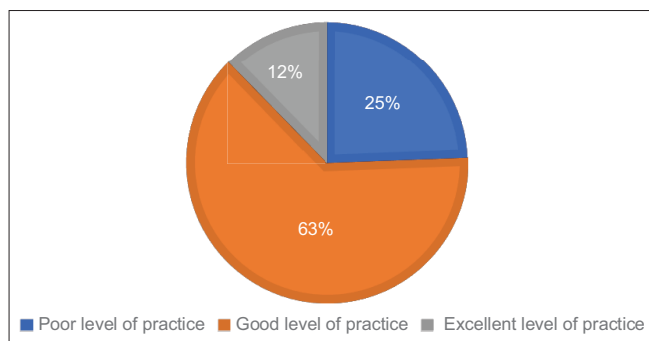


Figure 2: Percentages of participants among the three level of practice against unintentional home injury (n = 324)

from the children, 91% they keep cigarette lighters and matches away from the children, 88% using safety tools for furniture, 87% checking the temperature of the water before use, 87% keep electrical instruments and wires away of children, 93% they do not permit for their children to swim without supervision, 89% they do not leave their children alone at home, 89% they do not leave their children with heater without guard, 87% they do not have smoke alarms in their homes.^[13]

The relation between demographic characteristics and level of practice *P* value as following: Age classes (*P* = 0.04), Gender (*P* = 0.08), Education level (*P* = 0.01), Salary (*P* = 0.49), House type (*P* = 0.67), Residence of child (*P* = 0.4), Presence of babysitter for caring (*P* = 0.12), Presence of abnormal health condition (*P* = 0.9).

In one study done in Riyadh city in KSA in 2011, it was about the pattern of injuries among children and included 1650 adolescents and children, reported that most injuries were among females 26%, falls were the most common among other injuries which represent 40%.^[14]

Another study was done in KSA in Jeddah city between 1999 to 2000 included 289 participants, it was about safety practices in child and infant, the study reported that 75% of mothers sleeping with their infant, 74% keeping medications and detergents away from children, the using of safety belt was highest among higher-income families, the study concluded that the families need to improve their knowledge about safety practices to prevent home injuries.

Low parental adherence to safety rules was found to be related to information deficit, parents' negligence, and/or low income (which prevents purchasing of safety products), according to the literature. Ongoing education and legislative regulations are effective in terms of injury control.^[15]

In the previous studies were focused on one city while in this study included the 13 provenances in Kingdome Saudi Arabia.

The limitations of the study: The participation was restricted to those who social media and the internet, also some risk factors have been removed from the questionnaires due to a very long questionnaire.

Conclusion and Recommendation

In this study, I concluded that only 12% of the participants have a poor level of practice while 63% have a good level of practice so, the level of practice is generally is satisfied and significant and about the safety instruments at home, 85% of the participants answered that they do not have a smoke alarming system, 14.8% of the participants have a fire extinguisher. This emphasis on the importance of the presence of safety home programs that any home should have smoke alarm systems, fire extinguisher. We recommend also that there are more risk factors not covered in this research like fall risk factors, exposure to chemicals

substances factors, exposure to electrical shock from an electrical instrument, this need to be covered in another study.

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Key Messages

Prevention unintentional home injuries are one of the important preventive care tasks that should be delivered by every primary care physician to the parents or families by using different skills such as counseling, educational materials, posters in the waiting area to prevent the children's injuries.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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