

DOI: 10.5281/zenodo.11425297

# CHILDREN'S HOME SAFETY MEASURES PRACTICE AMONG MOTHERS ATTENDING AL-ESKAN PRIMARY HEALTH CARE CENTER IN MAKKAH AL- MOKARRAMAH CITY: CROSS-SECTIONAL STUDY 2023

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Received: 11/11/2025

Accepted: 18/12/2025

## ABSTRACT

*To evaluate Children's home safety measures practice, and associated factors among mothers attending well baby clinics in Makkah Al-Mokarramah. A cross-sectional study conducted during 2023 among mothers attending well baby clinics in Aleskan PHC in Makkah Al-Mokarramah. Out of 292 mothers, 244 (85.3%) were Saudis, with a mean age score  $34.9 \pm 8.7$ . More than half, 157 (54.3%) had a university degree, 172 (60.1%) were housewives, 173 (59.9%) had housekeepers, 254 (88.2%) were married, 246 (84.8%) lived in flat, 252 (87.8%) lived with both parents, 193 (74.5%) reported home accidents. Regarding type of accidents, the most common accidents were burns (35,31.5%), followed by wounds (23,20.7%), then drop off (22,19.8%). While the least accident was electricity shock (1, 0.9%). The mean score of scale of application of safety precaution at home was  $17.0 \pm 6.0$  rang (1.0-26.0), indicating average practice. A higher significant level of safety precaution among higher educator, employee, less children number, and those who didn't record any home accident ( $p=0.005$ ,  $p=0.003$ ,  $p=0.001$ , and  $p<0.0001$ ). On the other hand, there was no significant difference regarding nationality, monthly income, having housekeeper, house type, and who living with. The rate of home accidents was high. the most common accidents were burns, wounds and drop off, and the least accident was electricity shock. The application of safety showed average practice. A higher significant level of safety precaution among higher educator, employee, less children number, and those who didn't record any home accident. Health education messages on safety precautions procedures to mothers should be enforced for those who are young, illiterate, unemployed, with higher number of children. More studies on the assessment of mothers' knowledge and practices regarding safety precautions procedures need to be conducted in larger sample sizes and regions other than Makkah Al-Mukarramah. To present the key points in this study to PHCC and well-baby clinic doctors and to write a brochure about safety precautions procedures to be distributed to mothers in the clinics, malls and schools.*

**KEYWORDS:** Safety Measures, Primary Health Care, Home Safety Measures, Well Baby Clinics.

## 1. INTRODUCTION

### 1.1. Background

Children are exposed to hazards and risks as they go about their daily lives and are vulnerable everywhere to accidents. (1) Children's lack of ability to protect himself/herself from injuries, it is the responsibility of parents to provide safe environment, to take protective measure and to audit safety of living spaces of children. (2)

Unintentional injuries are one of the leading causes of death, hospitalization and disability across the world. However, the pattern and etiology of injuries and their outcome vary within populations and across countries. (1) Childhood injury is a major public health problem that requires urgent attention. It is a major killer of children around the world, responsible for about 950 000 deaths in children under 18 years each year. Unintentional injuries account for almost 90% of these cases. (1)

Unintentional injuries such as burns, drowning, falls and poisoning are the leading cause of morbidity and mortality among children in the United States. Each year, among those births to 19 years of age, more than 12,000 people die from unintentional injuries and more than 9.2 million are treated in emergency departments for nonfatal injuries. (3) In a prospective study on 178 cases of accidental home poisoning admitted to children's hospital in Riyadh, poisoning was 5.6% of the total annual admissions greater than any other developing country. (4)

### 1.2. Rationale

The accidents affect physical, mental and social wellbeing of child and may cause disease, disability or even deaths. therefore, accidents at childhood are an important public health issue. (5) Accidental injuries to children are serious, but at same time It's preventable with appropriate information and safe practices. (6)

This population was chosen because a children lacks of ability to protect himself/herself from injuries, it is responsibility of parents to provide safe environment, to take protective measure and to audit safety of living spaces of children.(2) The children are vulnerable to accidents due to their want to explore their world and the inability to understand the dangers of their actions.(6) Up to the researcher knowledge there were no similar studies in Makkah.

The researcher has family history of such events.

### 1.3. Aim of the Study

To assess Children's home safety measures

practice among mothers, therefore, an awareness about children's home safety measures practice will be increased and the prevalence of home injuries will be decreased.

### 1.4. Objectives

To evaluate Children's home safety measures practice among mothers attending Al-Eskan primary health care center in Makkah Al-Mokarramah city, 2023. To determine associated factor with Children's home safety measures practice among mothers attending Al-Eskan primary health care center In Makkah Al-Mokarramah city, 2023.

## 2. LITERATURE REVIEW

### 2.1. International Studies

In 2014, in India, Manjulika et al conducted a cross-sectional study among 230 rural mothers of west Tripura district, to assess knowledge of mothers regarding domestic childhood injuries and safety measures adopted by them. The results revealed that only 3.9% met minor domestic injuries. Out of which 6(66.7%) of respondents' children 3 were treated at home, remaining at hospital and all of them recovered. No significant relationship between age of mother and level of knowledge ( $X^2$  for trend,  $p=1.094$ ). While there was a significant relation ( $p=0.016$ ) between child gender and level of knowledge of mothers. (7)

In 2015, in Egypt, Megahed et al conducted a cross-sectional interventional study among 270 from Bijirim village, Queisna district, Menoufia, Egypt, to assess rural mothers' knowledge, attitudes, and practices toward home-related injuries and their first aids among children under 5 years of age before and after implementation of educational program. The results revealed that mass media were the main source of knowledge for 43.3% of the mothers. There was a statistically significantly higher percent of satisfactory knowledge among highly educated mothers and those with middle and high socioeconomic level. Also, there was a significant positive correlation between mothers' practice and their education and their socioeconomic level. There was a significant improvement in mothers' knowledge after intervention. (8)

In 2016, in Turkey, AKTÜRK and ERCİ conducted a cross-sectional study among 305 mothers to determine knowledge, "attitudes" and "behaviors" in mothers with a child aged 0-5 years regarding factors causing "home accidents" and prevention. the result showed a significant association was found between experiencing home accident and maternal age, maternal education level, number of child,

number of persons in the family and income of family ( $p < 0.05$ ). In this study, it was reported that wrong attitudes and behaviors were more common among mothers of children experienced home accident ( $p < 0.05$ ). (9)

## 2.2. National Study

In 2000 Jan et al conducted a prospective interview to detect the parent's safety practices and explore the possible correlating and contributing factors to unfavorable safety behaviors. The result s revealed that only 4% of families had a smoke detector at home and 8% reported using an infant car seat. Even tht most families owned an infant crib, still 75% of the mothers reported sleeping next to the infant in the mother's bed. Up to 74% of the families reported keeping detergents and medications in a high or locked cabinet, only 10% of the parents reported that their children use bicycle helmets and 24% use car seat belts., 24% reported allowing their children to play unsupervised in the street. They concluded that infant and child safety practices of many families living in Jeddah needs more improvements. (10)

In 2014, in Saudi Arabia, Al Ruwaili et al conducted a cross-sectional study to assess the safety measures for drug storage that are employed by parents to avoid unintentional drug poisoning of children below the age of 6 years. The result showed that 93% of the respondents did not store medications in secure and safe places such as locked boxes or locked drawers; however, more than half of the respondents (54.3%) stored medications at a level that was above the eye level of an adult. The majority of drugs (60.2%) were kept in the fridge, 30%. Stored medications in two places, 89% disposed of unwanted medicines by throwing them in the trash. They recommended conducting community education and awareness programs regarding the safe storage of drugs in the home and the determining of useful and accessible methods of drug disposal are needed. (11)

## 3. METHODOLOGY (MATERIAL AND METHOD)

### 1. Study Design

The study design was a cross-sectional.

### 2. Study Population

Mothers of Children attending Al-Eskan PHCC in Makkah Al-Mokarramah during the study period.

### 3. Eligibility Criteria:

#### 1- Inclusion criteria:

- All Mothers of Children up to 11 years attending Al-Eskan PHCC in Makkah Al-Mokarramah City, 2023.

#### 2- Excluding criteria:

- Non-Arabic mothers.
- Illiterate mothers.
- Those who refused to participate in the study.

## 4. Study Area

Makkah AL-Mokarramah is a city in Saudi Arabia and it is the holiest city in the world for Muslims. it is the place where the prophet Muhammad, peace be upon him, was born. In Makkah AL-Mokarramah there is AL masjid AL haram which contains the Holy Kaaba. Every year millions of Muslims visit Makkah AL-Mokarramah to perform hajj.

Health care is provided by the Saudi government to all population of Makkah and pilgrims. Makkah has 82 PHC divided under 7 main sectors. This study was conducted at Al-Eskan PHCC which is under Al-kaakia sector. Al-Eskan PHCC had JCI accreditation several years. Al-Eskan PHCC offers several services including family medicine clinics, general clinics, chronic disease clinics, antenatal clinic, dentist clinic, well baby clinic and vaccination, as well as pharmacy, radiology and laboratory services. family medicine clinics run by certified specialists and consultants. The other remaining clinics are run by a general physician.

## 5. Sample Size

Total population: 783 children who visited the primary health center (general clinics and vaccination clinic) within a month, ages up to 11 years.

sample size was calculated by Raosoft Website for sample size calculation. It was  $258 + 26 (10\%) = 284$  mothers and by approximation it became 290, The calculation based on 50% prevalence ,95% confidence level, 5% error and 10% for defaulter and non-respondent.

## 6. Sampling Technique

Non probability convenient sampling technique was used to obtained the required sample size.

## 7. Data Collection Tool (Instrument)

An Arabic self-administered questionnaire constructed by the researcher after revising several studies and validated by three consultants.

**The questionnaire was consisting of two main parts:**

**First part:** socio-demographic and personal characteristics including Mother's age, Mother's education, Mother's occupation, Mother's nationality, Married status, Family's monthly income, Number of children, Number of children and history of previous accidents.

**Second part:** children's home safety measures practice

**8. Validity And Reliability:**

An Arabic self-administered questionnaire will be revised and validated by three consultants. During the pilot study, the researcher tested the reliability using Cronbach alpha for practice part and it was equal 0.859 indicating good reliability.

**9. Data Collection Technique**

The researcher asked the manager to give her place to collect sample before mothers enter the clinics and take the services then the questionnaire was distributed to the mothers who attending Al-Eskan PHCC by the researcher herself in female section and under the researcher supervision. The questionnaire was collected at the same time.

**10. Study Variables**

**Dependent variables:**

- children's home safety measures practice

**Independent variables:**

- Mother's age
- Mother's nationality
- Mother's education
- Mother's occupation
- Married status
- Family's monthly income
- House type
- Do you have housekeeper
- Number of children
- With who the children live?
- History of previous accidents
- What you will do if your children have an

accident?

**11. Data Entry and Analysis**

- Computer program (SPSS) version 22 was used
- Significance: P-value < 0.05
- Appropriate statistical tests such as Chi-square, T-test and other appropriate tests will be used.

**12. Pilot Study/Pretesting**

A pilot study was conducted on 10% of the sample size only, which are approximately 25 mothers among who aren't included in the actual study to test the validity of the questionnaire. The modification was made according to the pilot results.

**13. Ethical Considerations**

- Research committee approval.
- Permission from the joint program of family medicine in Makkah was obtained.
- Permission from administration of public health and manager of sector in Makkah was obtained.
- Written consent for data collection from each participant.
- Acknowledgment of all supervisors, advisors, helpers, facilitators and participants

**14. Budget**

Self-funded.

**4. RESULTS**

Out of 292 mothers, 244 (85.3%) were Saudis, with mean age score 34.9± 8.7. More than half 157 (54.3%) had university degree, 172 (60.1%) were housewives, 173 (59.9%) had housekeepers. The majority 254 (88.2%) were married, 246 (84.8%) lived in flat, 252 (87.8%) lived with both parents. Almost third fourth 193 (74.5%) reported home accidents. **(Table 1)**

*Table (1): Demographic Data.*

Variable	Mean± SD	Range (min-max)
Age	34.9± 8.7	(20-80)
variable	N	%
<b>Nationality</b>		
Saudi Arabia	244	85.3
not Saudi	42	14.7
<b>Education</b>		
Read and write	11	3.8
Elementary	18	6.2
Intermediate	22	7.6
Secondary	69	23.9
University	157	54.3
Postgraduate studies	12	4.2

Occupation		
Employee	114	39.9
Housewife	172	60.1
Marital status		
Married	254	88.2
Divorced	18	6.3
Widowed	16	5.6
Monthly		
Less than 3000 riyals	65	23.3
3000 - 9000 riyals	101	36.2
90001 - 15000 riyals	80	28.7
More than 15000 riyals	33	11.8
Home		
A popular house	10	3.4
Flat	246	84.8
Villa	33	11.4
Other	1	.3
Housekeeper		
Yes	116	40.1
No	173	59.9
Children number		
1-2	111	38.7
3-4	110	38.3
5 children and more	66	23.0
Living with who		
with parents	252	87.8
With the mother	29	10.1
With the father	3	1.0
With other relatives	3	1.0
Home accident		
Yes	66	25.5
No	193	74.5

Regarding type of accidents, the most common accidents were burns (35,31.5%), followed by wounds (23,20.7%), then drop off (22,19.8%). While

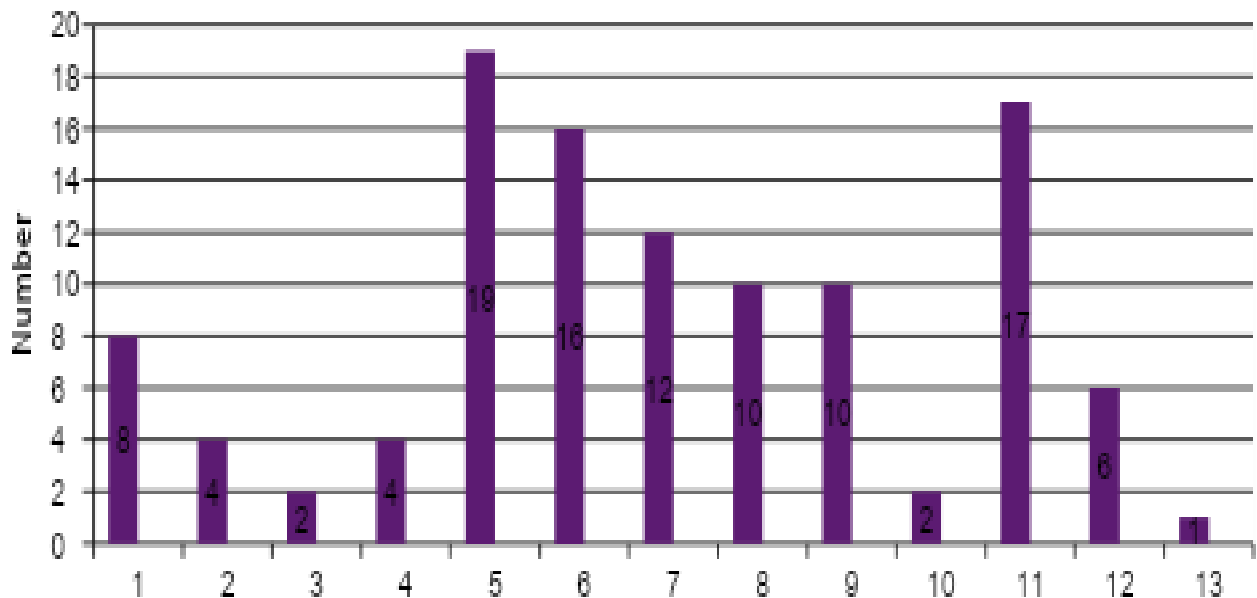
the least accident was electricity shock (1, 0.9%). Almost the third 133 (32.0%) reported "asking for help", and 122 (30.6%) "do first aid". (Table 2)

**Table (2): Accident Information.**

variables		N	%
Drug poisoning	Cases number	12	10.8
	Accident frequency (median)=4		
	Gender		
	Male	8	66.7
	Female	4	33.3
Age (median)= 1 year			
Chemical poisoning	Cases number	6	5.4
	Accident frequency(median)=3		
	Gender		
	Male	2	33.3
	Female	4	66.7
Age (median)= 1 year			
Burns	Cases number	35	31.5
	Accident frequency(median)=4		
	Gender		
	Male	19	54.3
	Female	16	45.7
Age (median)= 1 year			
Drop off	Cases number	22	19.8

	Accident frequency(median)=4	
	Gender	
	Male	12 54.5
	Female	10 45.5
	Age(median)= 1 year	
	Cases number	12 10.8
suffocation	Accident frequency(median)=5	
	Gender	
	Male	10 83.3
	Female	2 16.7
	Age(median)= 1 year	
Wounds	Cases number	23 20.7
	Accident frequency(median)=5	
	Gender	
	Male	17 73.9
	Female	6 26.1
Age(median)= 1 year		
Electricity accidents	Cases number	1 0.9
	Accident frequency(median)=1	
	Gender	
	Female	1 100.0
Age(median)= 1 year		
	If your child has an accident, what are you doing?	
	Do not know	36 11.5
	Do first aid	122 30.6
	Ask for help	133 32.0
	Follow the traditional methods	46 9.9

**Figure 1: Accident type and number**



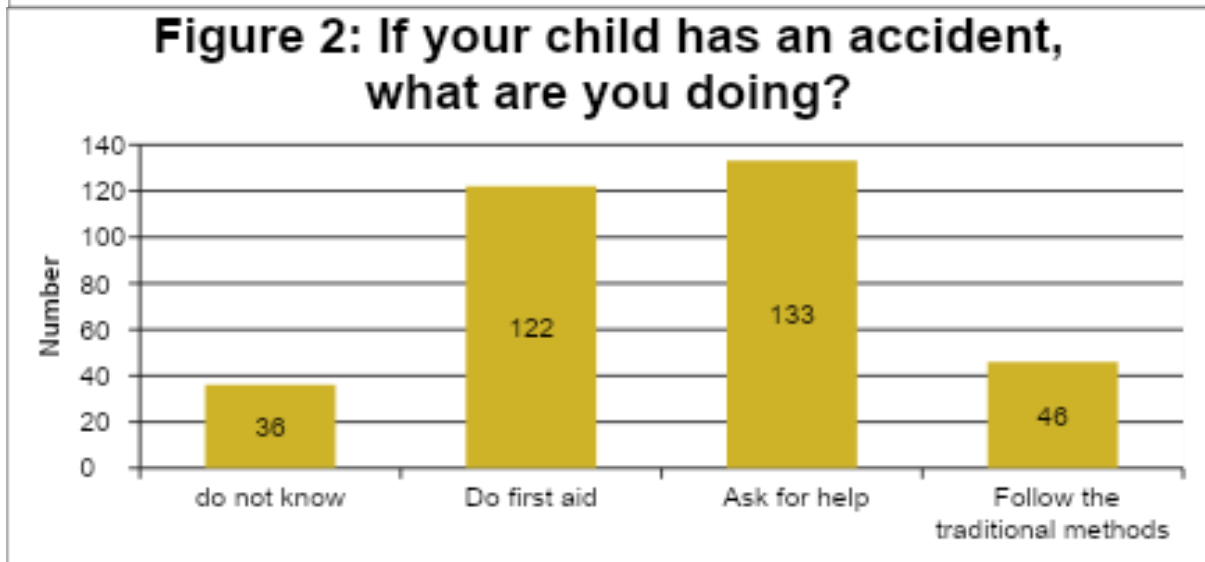
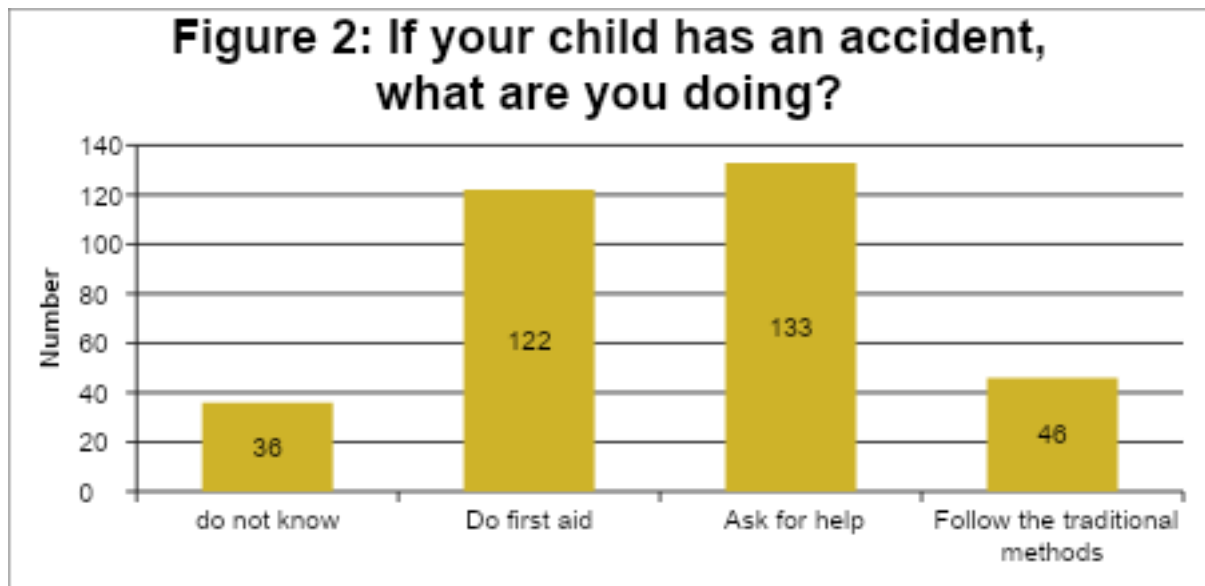


Table 3 showed that the main correct acting in order to prevent burns accidents were “choose a suitable place for the gas cylinder” by 243 (85.9%) , followed by “never leave the oil burning on the stove and busy with other things” by 196 (69.0%) , then

“make sure that the gas supply (gas pipe) is not exposed to heat or weather factors that cause damage” by 195 (68.7%). While the least correct action was “you put the cooking utensils on a table covered with a lid” by 108 (38.6%). (Table 3)

**Table (3): Scale of the Application of Safety Precaution at Home (Prevention of Burns and Gas Accidents at Home).**

variables	N	%
Do you choose a suitable place for the gas cylinder?		
Yes	243	85.9
No	6	2.1
Sometimes	34	12.0
Do you make sure that the gas supply (gas pipe) is not exposed to heat or weather factors that cause damage		
Yes	195	68.7
No	52	18.3
Sometimes	37	13.0
Do you disconnect the gas keys from the burner and cylinder after you finish them.		
Yes	149	52.3
No	92	32.3
Sometimes	44	15.4
Do you leave the oil burning on the stove and busy with other things.		

Yes	19	6.7
No	196	69.0
Sometimes	69	24.3
Do match matches and lighters on kitchen cabinets.		
Yes	76	26.4
No	167	58.0
Sometimes	45	15.6
Do you put the cooking utensils on a table covered with a lid?		
Yes	108	38.6
No	138	49.3
Sometimes	34	12.1
Do you turn the handles of cooking utensils back when cooking on the front part of the stove		
Yes	179	63.3
No	42	14.8
Sometimes	62	21.9
Do you cook on the front of the fireplace when the child is in the kitchen		
Yes	58	20.5
No	146	51.6
Sometimes	79	27.9

**Figure 3: Prevention of burns and gas accidents at home**

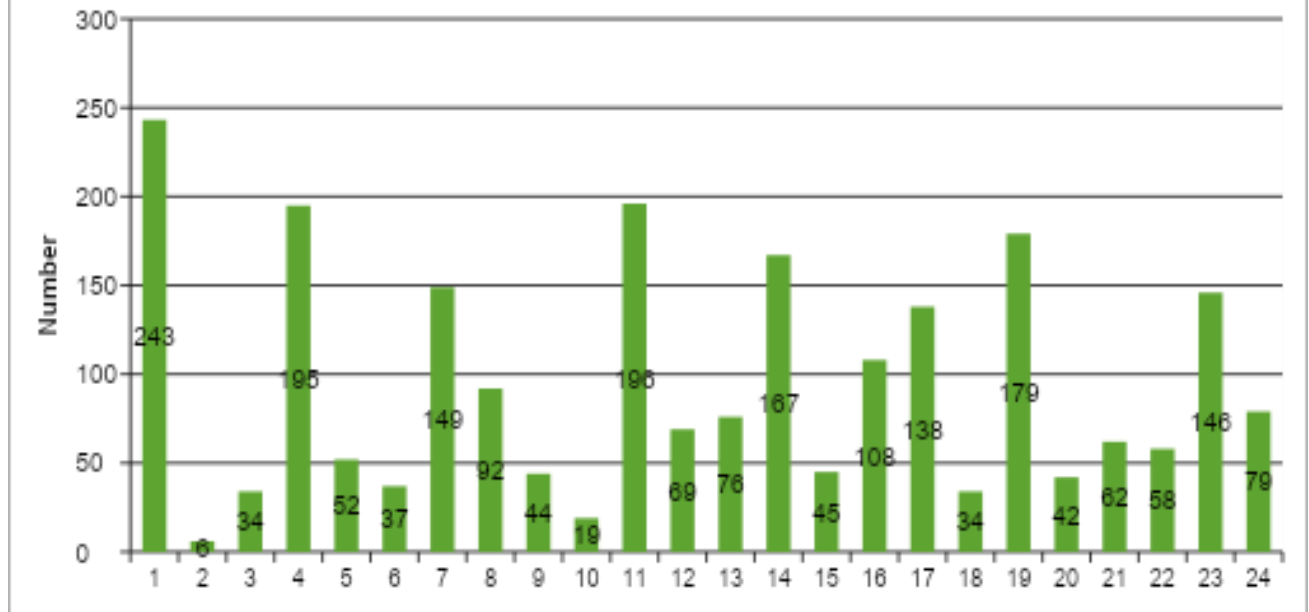


Table 4 showed that the main correct acting in order to reduce injuries and drop off accidents were “keep sharp pots like knives and scissors out of the reach of children” by 246 (86.8%) , followed by “never leave tables or seats near balconies” by 222

(79.0%), then “install flat TV on the wall to prevent it from falling” by 216 (75.5%). While the least correct action was “use smooth floors at home because they do not cause slippage.” by 83 (29.6%). (Table 4)

**Table (4): Scale of the Application of Safety Precaution at Home (Reduce the Incidence of Injuries and the Fall of Children at Home).**

variables	N	%
Do you watch children play?		
Yes	189	66.3
No	19	6.7
Sometimes	77	27.0
Do you leave tables or seats near balconies?		
Yes	34	12.1
No	222	79.0
Sometimes	25	8.9
Do you use smooth floors at home because they do not cause slippage.		
Yes	83	29.6
No	158	56.4

Sometimes	39	13.9
Do you put proper barriers on balconies and windows? And stairs		
Yes	188	65.7
No	62	21.7
Sometimes	36	12.6
Do you strap the belt to the child's chair		
Yes	138	48.4
No	65	22.8
Sometimes	82	28.8
Do you create safe places for them especially when playing.		
Yes	202	70.6
No	20	7.0
Sometimes	64	22.4
Do you put your child on the table while busy in the kitchen		
Yes	27	9.4
No	209	73.1
Sometimes	50	17.5
Do you keep sharp pots like knives and scissors out of the reach of children?		
Yes	249	86.8
No	8	2.8
Sometimes	30	10.5
Do you install flat TV on the wall to prevent it from falling?		
Yes	216	75.5
No	50	17.5
Sometimes	20	7.0

**Figure 4 : Reduce the incidence of injuries and the fall of children at home**

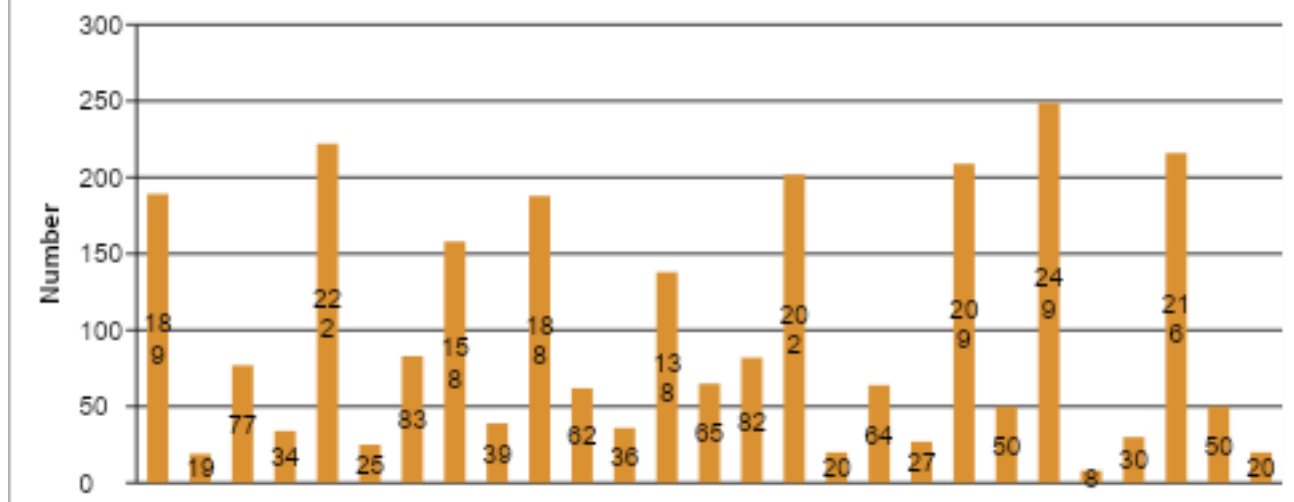


Table 5 showed that the main correct acting in order to prevent poisoning accidents were “put pesticides and detergents in a safe place at home” by 234 (82.1%), followed by “put medicines in a special place so that they are out of the reach of children” by

228 (79.7%), then “keep cleaning products in their original containers” by 226 (79.3%). While the least correct action was “enter rooms sprayed with pesticides after the necessary safety period” by 199 (70.1%). (Table 5)

**Table (5): Scale of the Application of Safety Precaution at Home (Poisoning of Detergents, Pesticides and Medicines in the Home).**

variables	N	%
Do you put pesticides and detergents in a safe place at home so that children do not reach it?		
Yes	234	82.1
No	11	3.9
Sometimes	40	14.0
Do you keep cleaning products in their original containers?		
Yes	226	79.3
No	14	4.9

Sometimes	45	15.8
Do you enter rooms sprayed with pesticides after the necessary safety period.		
Yes	199	70.1
No	39	13.7
Sometimes	46	16.2
Do you use more than one type of pesticide?		
Yes	35	12.5
No	222	79.0
Sometimes	24	8.5
Do you put medicines in a special place so that they are out of the reach of children?		
Yes	228	79.7
No	13	4.5
Sometimes	45	15.7

**Figure 5: Poisoning of detergents, pesticides and medicines in the home**

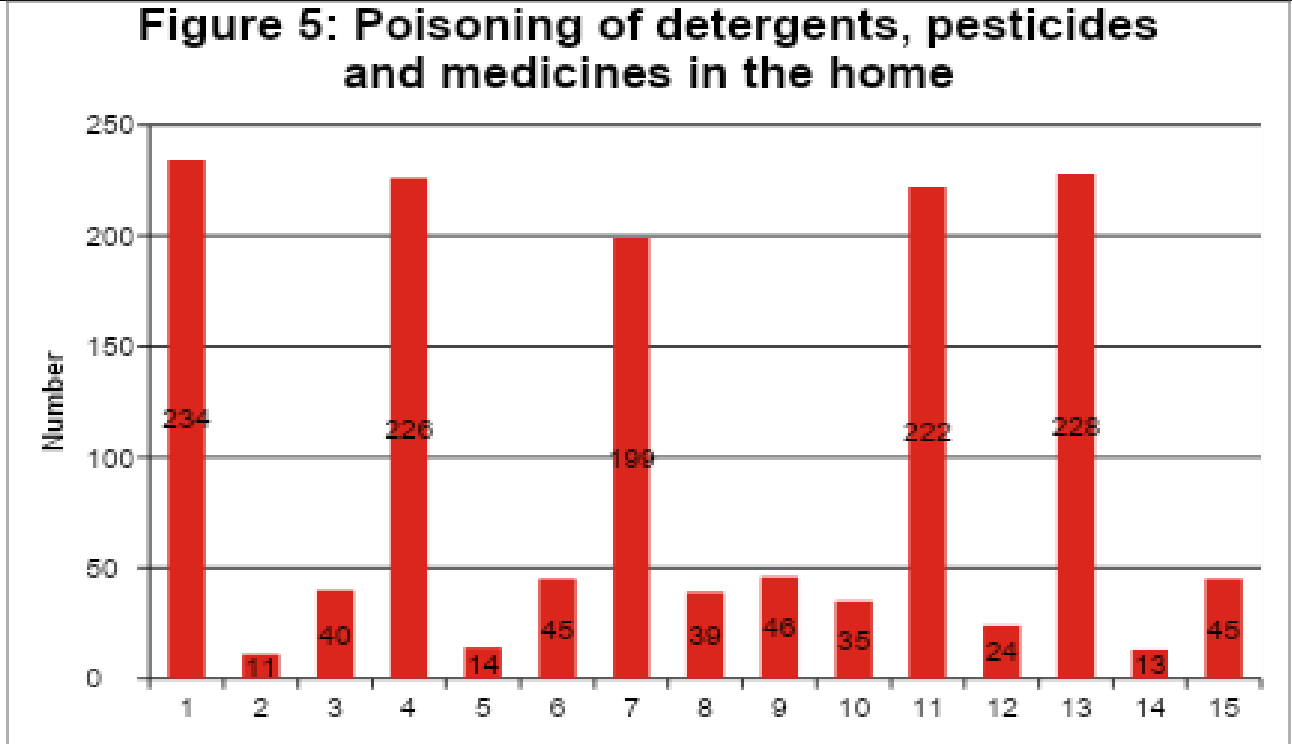


Table 6 showed that the main correct acting in order to prevent suffocation accidents were “never sleep near the heaters until the morning” by 256 (90.5%), followed by “never use heaters that operate with oil or gas” by 235 (82.7%), then “never keep the

fire extinguishers working all night” by 229 (81.8%). While the least correct action was “shut down ventilation outlets like doors and windows during sleep” by 65 (22.9%). (Table 6)

**Table (6): Scale of the Application of Safety Precaution at Home. (The Suffocation Inside the House)**

variables	N	%
Do you use heaters that operate with oil or gas?		
Yes	27	9.5
No	235	82.7
Sometimes	22	7.7
Do you shut down ventilation outlets like doors and windows during sleep		
Yes	161	56.7
No	65	22.9
Sometimes	58	20.4
Do you sleep near the heaters until the morning?		
Yes	14	4.9
No	256	90.5
Sometimes	13	4.6
Do you keep the fire extinguishers working all night?		
Yes	34	12.1

No	229	81.8
Sometimes	17	6.1
Do you choose the appropriate games for the age of the child		
Yes	207	73.4
No	30	10.6
Sometimes	45	16.0
Do you help the child to eat the meal while playing		
Yes	99	35.6
No	106	38.1
Sometimes	73	26.3

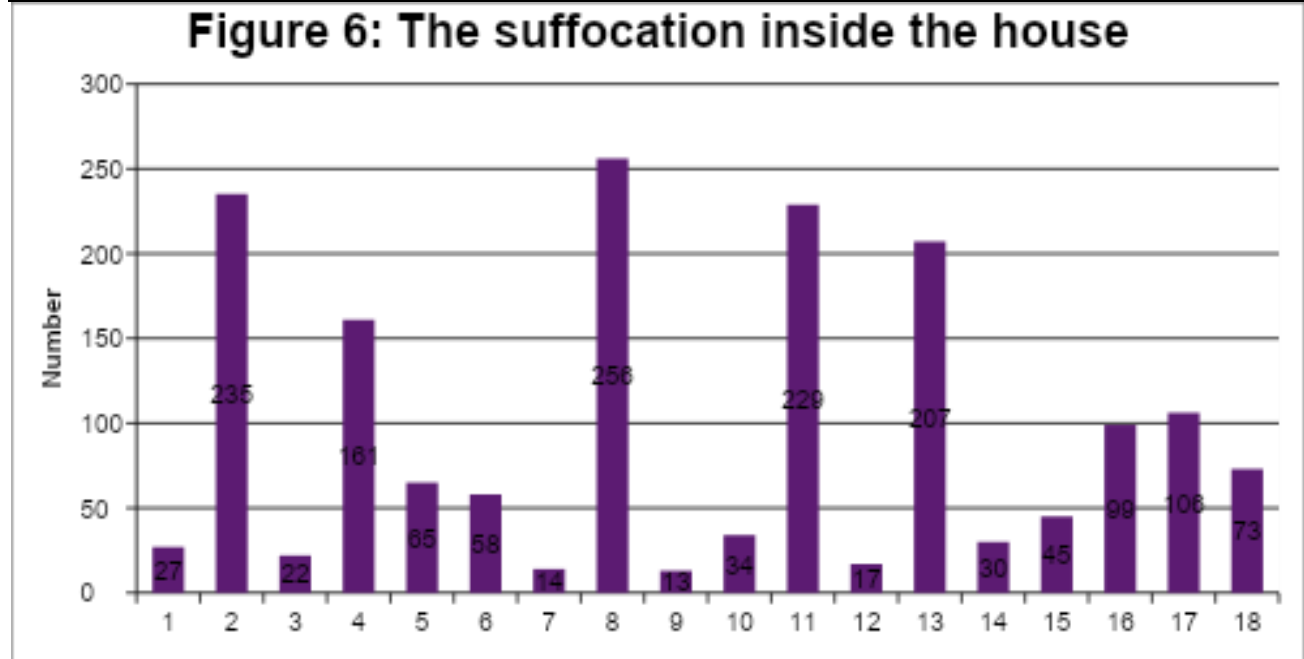
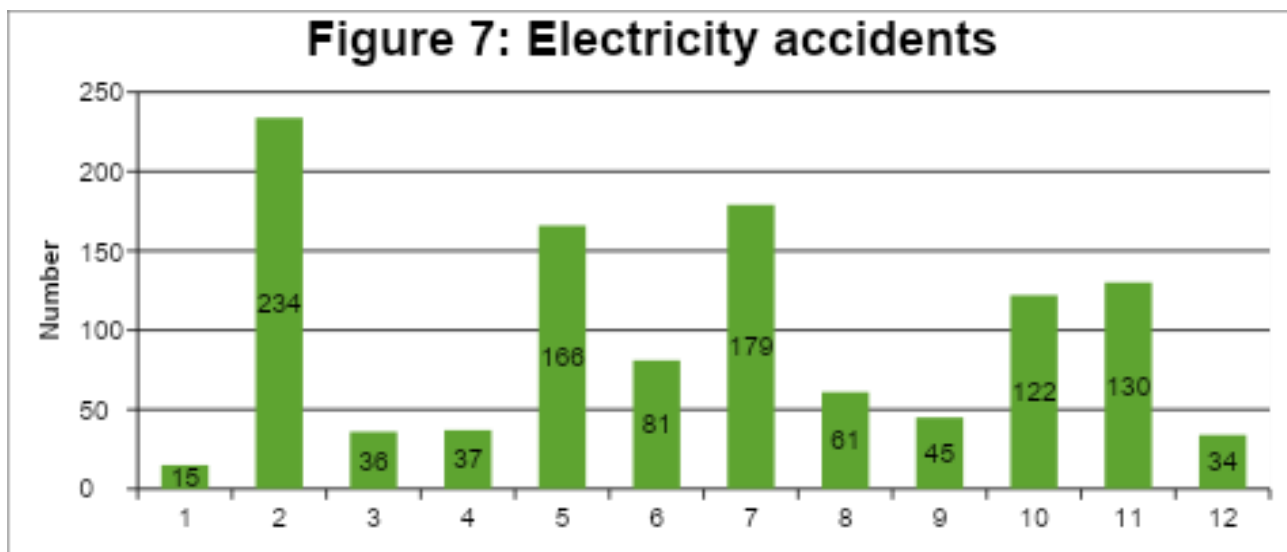


Table 7 showed that the main correct acting in order to prevent electricity shock were “never overload the power supply” by 234 (82.1%), followed by “put electrical appliances out of the reach of

children” by 179 (62.8%) , then “never leave the appliance in a long-running position” by 166 (58.5%). While the least correct action was “cover the power switches” by 122(42.7%). (Table 7)

**Table (7): Scale of the Application of Safety Precaution at Home (Electricity Accidents).**

variables	N	%
Do you overload the power supply?		
Yes	15	5.3
No	234	82.1
Sometimes	36	12.6
Do you leave the appliance in a long-running position.		
Yes	37	13.0
No	166	58.5
Sometimes	81	28.5
Do you put electrical appliances out of the reach of children?		
Yes	179	62.8
No	61	21.4
Sometimes	45	15.8
Do you cover the power switches.		
Yes	122	42.7
No	130	45.5
Sometimes	34	11.9



The mean score of scale of application of safety precaution at home was  $17.0 \pm 6.0$  rang (1.0-26.0), indicating average practice. A higher significant level of safety precaution among higher educator, employee, less children number, and those who

didn't record any home accident ( $p=0.005$ ,  $p=0.003$ ,  $p=0.001$ , and  $p<0.0001$ ). On the other hand, there was no significant difference regarding nationality, monthly income, having housekeeper, house type, and who living with. (Table 8)

Table (8): Comparing the Scale of Regarding Demographic Data.

variables		Mean	SD	Test	P value
Nationality	Saudi	16.8528	5.57908	2.78	0.064
	not Saudi	14.8214	5.35450		
Education	Read and write	15.8889	5.25463	3.47	.005*
	Elementary	15.6429	6.03333		
	Intermediate	13.0000	6.55744		
	Secondary	15.0000	6.05945		
	University	17.7500	4.81795		
	Postgraduate studies	17.3333	8.18535		
Occupation	Employee	17.9670	5.27352	9.28	.003*
	Housewife	15.6838	5.69822		
Marital status	Married	16.8186	5.55061	1.83	.162
	Divorced	14.8462	6.40112		
	Widowed	14.2500	5.94100		
Monthly income	Less than 3000 riyals	16.3654	5.70184	.730	.523
	3000 - 9000 riyals	15.9487	6.23750		
	90001 - 15000 riyals	17.0000	5.11709		
	More than 15000 riyals	17.5333	5.18442		
Home	A popular house	16.6000	5.41295	1.78	.150
	Flat	16.4264	5.68034		
	Villa	17.9630	4.97286		
housekeeper	Yes	16.3895	5.73770	.125	.724
	No	16.6567	5.57533		
Children number	1-2	17.5914	5.40579	6.76	.001*
	3-4	16.9024	5.53465		
	5 children and more	14.2037	5.58765		
Living with	with parents	16.8284	5.49653	2.76	.092
	With the mother	13.9545	6.29041		
	With the father	14.5000	9.19239		
	With other relatives	20.5000	.70711		
Home accident	Yes	13.2667	5.96278	29.76	0.0001**
	No	17.7230	5.07605		

5. DISCUSSION

Accidental injuries are the main cause of death in

children aged 28 days to 15 years.1,2 Even that the injuries consider for less than 5% of deaths in the first year of life, they are the 3rd main cause of death in

the post-neonatal period.<sup>2</sup> In Saudi Arabia, a 1 from 5 victim of road traffic accidents is a child and the unrestrained child passenger is at great risk of serious injury or death. Other kinds of accidental injuries include drowning and fire.<sup>(10)</sup>

The present study aimed to assess Children's home safety measures practice among mothers. Results of this study showed that almost third fourth reported home accidents. The most common accidents were burns, wounds and drop off. While the least accident was electricity shock. Jan et al reported that 29 (10%) parents reported history of a previous accident. <sup>(10)</sup>. AKTÜRK and ERCİ reported the rate of accidents to be 41.8%. Where the higher rate of accidents was Fall-Slipping (21.9%), and poisoning (13.4%). <sup>(9)</sup> This differences in the percentage could be due to several factors such as socio-economic factors, sample size, and studies nature.

Primary health care providers in well-baby clinic should be advised to focusing more on providing health education on safety procedures to all mother during regular visits. Findings of the present study showed that mothers' practice regarding home safety procedures were average. Where the good practice to prevent accident was regarding electricity shock, followed by poisoning, then suffocation, injuries, and lastly burns. AKTÜRK and ERCİ reported that 73.9% reported taking precaution procedures. Where the wrong attitudes and behaviors were more common in the mothers of children experienced home accident, indicating significant difference ( $p < 0.05$ ). <sup>(9)</sup> Jan et al reported that only 11 (4%) had a smoke detector at home, most of them (82%) lived in a flat. As well, only 10% of the fathers drove a car equipped with air bags. Also, most families (74%) had both medication and detergent cabinets. <sup>(10)</sup>

In Al Ruwaili et al study, 93% of the children younger than 6 years were at risk of accidental poisoning by medications. The most often stored classes of medicines were fever and pain medications (95%) followed by cough and decongestant medications (68%) and vitamins and iron (56%). <sup>(11)</sup> Necessary health education to mothers through well-baby clinic visits is very important as an active tool to increase the practice level of safety procedures. Therefore, every consultation at health care facility should be used ideally so that the children and mother get the maximum benefits from the health care providers. Knowledge related to "safety precautions procedures" must be repeated at every visit. The key point to increase the practice and knowledge is improving healthcare facility, and increase the resources. Results of the present study

showed a higher significant level of safety precaution among higher educator, employee, less children number, and those who didn't record any home accident ( $p=0.005$ ,  $p=0.003$ ,  $p=0.001$ , and  $p < 0.0001$ ).

Al Ruwaili et al reported no significant association between safety procedures and both age and educational level. <sup>(11)</sup> AKTÜRK and ERCİ reported lower accidents prevalence among younger age, higher educator, employee, and those with few children ( $p=0.004$ ,  $p=0.001$ ,  $p=.010$ ,  $p=0.001$ ) respectively. <sup>(9)</sup> According to educational level, and occupation, this could be due to the facts that educational and employed women have more chances to receive information and share experience with others, then take the decision to apply safety procedures. Regarding age factor, and fewer number of children. This result could be because women who had fewer children and younger are more aware and focusing more on applying safety procedures. These findings indicate that even with the good level of knowledge of safety precautions procedures, the practice of is average.

### 5.1. Limitations Of the Study

Time limits, the researcher gathered the data in one month only, refused to participate, and this study was conducted at only one PHCC at Makkah Al-Mukaramah.

## 6. CONCLUSIONS AND RECOMMENDATION

### 6.1. Conclusion

**Based on the findings of the researcher study, the following can be concluded:**

- The rate of home accidents was high.
- The infant and child safety practices of many families living in Makkah AlMukaramah needs more improvements.
- the most common accidents were burns, wounds and drop off.
- The least accident was electricity shock (1, 0.9%).
- Almost the third reported "asking for help", and the other third "do first aid".
- The main correct acting in order to prevent burns accidents were "choose a suitable place for the gas cylinder" and "never leave the oil burning on the stove and busy with other things".
- The main correct acting in order to reduce injuries and drop off accidents were "keep sharp pots like knives and scissors out of the reach of children" and "never leave tables or seats near balconies".
- The main correct acting in order to prevent

poisoning accidents were "put pesticides and detergents in a safe place at home" by and "put medicines in a special place so that they are out of the reach of children".

- The main correct acting in order to prevent suffocation accidents were "never sleep near the heaters until the morning" and "never use heaters that operate with oil or gas".
- The main correct acting in order to prevent electricity shock were "never overload the power supply" and "put electrical appliances out of the reach of children".
- The mean score of scale of application of safety indicated average practice.
- A higher significant level of safety precaution among higher educator, employee, less children number, and those who didn't record any home accident ( $p=0.005$ ,  $p=0.003$ ,  $p=0.001$ , and  $p<0.0001$ ).

## 6.2. Recommendations

Based on the findings of the researcher study, the following can be recommended:

- Primary health care providers and pediatrician are requested to provide the necessary health education on safety precautions procedures through well baby clinic visit and must be repeated at every visit.
- Health education messages to mothers on

safety precautions procedures should cover the main points of knowledge gap, especially preventing burns and injuries procedures.

- Health education messages on safety precautions procedures to mothers should be enforced for those who are young, illiterate, unemployed, , with higher number of children.
- The administrators in MOH should try to organize and conduct health education programs on safety precautions procedures in easy and familiar language among community through mass media to increase public awareness.
- Designing intervention program and campaigns to raise the level of awareness and practice.
- More studies on assessment of mothers' knowledge and practice regarding safety precautions procedures need to be conducted in larger sample size and regions other than Makkah Al-Mukarramah, so as to identify the level and distribution of different knowledge and practice grades as well as the areas and topics of knowledge shortages.
- To present the most key points in this study to PHCC and well-baby clinic doctors and to write a brochure about safety precautions procedures to be distributed to mothers in the clinics, malls and schools.

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