



ASSESSMENT OF MOTHERS' AWARENESS REGARDING FIRST AID OF CHOKING AMONG THEIR CHILDREN UNDER FIVE YEARS

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Abstract

Background: Choking is an emergency condition that requires immediate treatment. Choking occurs in 80% of under five-years-old children worldwide. Many children do not receive help since the aid provider fears causing harm due to the absence of choking case knowledge. Improving mothers' awareness can decrease choking risk in children that threatens life.

Aim: This study aimed to assess mothers' awareness regarding first aid of choking among their children under five years.

Design: A descriptive research design was used to conduct this study.

Setting: This study was carried out at the pediatric outpatient clinics affiliated to Fayoum General Hospital.

Sample: A convenience sample of 110 mothers had children under five years participated in the study admitted to the previous mentioned setting.

Tools of the study: three tools were used to conduct this study 1st tool: a structured interview questionnaire sheet was used to assess mothers' knowledge regarding first aid of choking. 2nd tool: Observation checklist to assess mothers' reported practice regarding first aid of choking. 3rd tool: Likert scale to assess mothers' attitude regarding first aid of choking.

Results: study clarified that mean age of studied mothers was 33.24 year; also revealed that majority of them had not taken previous first aid training and 25.5% had previous incident history. This study showed that 34.5% of mothers had satisfactory knowledge regarding first aid of choking.

Conclusion: The present study concluded that two third of studied mothers had unsatisfactory knowledge regarding choking first aid. Meanwhile more than two third of them had incomplete practice regarding choking first aid. Also, this study showed that 64.5% of studied mothers had positive attitude regarding first aid of choking. There was statistically significant positive correlation between total knowledge score, total practice and total attitude.

Recommendations: Constantly educational training program for mothers to enhance and improve their awareness regarding choking first aid.

Keywords: Mothers, Awareness, Choking, First aid, Children

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1. INTRODUCTION

Choking is a type of asphyxia where internal air passages, including the pharynx, hypo pharynx, and trachea, are obstructed by solid foreign bodies. Choking could be managed in children over one year by performing first aid and combining back blow and abdominal thrust. Abdominal thrust is called the Heimlich maneuver, which has proven an effective intervention in removing a foreign object from the airway (Sarabi & Nosratabadi, 2022).

Choking is typically defined as an aero-digestive foreign body causing varying amounts of obstruction to the airway. The obstruction can lead

to difficulties with ventilation and oxygenation thus resulting in significant morbidity or mortality. Items that are most commonly implicated in children include food, coins, toys, and balloons. Foreign body aspiration is the number one cause of accidental infantile deaths, and the fourth most common cause of death among preschool children less than five years of age (Cramer et al., 2018).

Choking, also known as Foreign Body Airway Obstruction (FBAO) is a phenomenon that occurs when breathing is impeded by a blockage inside of the respiratory tract. An obstruction that prevents oxygen from entering the lungs results in oxygen deprivation. Although oxygen stored in the blood

and lungs can keep a person alive for several minutes after breathing stops, choking often leads to death. Choking leads to tissue damage and cell death within 4-6 minutes because of foreign object blockage of the throat or airway (**Dodson & Cook, 2021**).

First aid is the initial treatment given to an acute illness or injury to preserve life, alleviate suffering, prevent further illness or injury, and promote recovery. Choking and Foreign Body Aspiration (FBA) are preventable, and with enough knowledge and training, anyone can save the life of a cardiac arrest victim (**Abdelmalik et al., 2022**). Over the course of years, death from choking has attracted the attention of health care providers, and recently, they start to focus on the importance of instructing parents mainly mothers, other caregivers and toy industrialists about the threats, and prevention of choking (**Elfeshawy et al., 2022**).

Mothers are responsible for providing a safer home environment, taking precautionary measures, and auditing the safety of children's living places while closely supervising them. At home, mothers are always in direct contact with their children, especially from infancy until preschool. Children are the most affected age group by home and traffic accidents. Parents, as the primary caregiver to their children, play an important role in saving their lives during an accident, therefore, more attention should be focused to assess and improve the parents' knowledge and skills of first aid (**Habeeb & Alarfaj, 2020**).

Pediatric nurses can play a critical role in increasing education efforts through providing choking prevention educational programs to parents and other caregivers as a vital part of preventative and management activities of choking risks. As well, because there is a great possibility of the inability to prevent all choking episodes among children, teaching parents, teachers, caregivers, about cardiopulmonary resuscitation (CPR) and first aid of choking between infants and children, mainly children at risk of choking (**Behboudi et al., 2022**).

• **Significance**

Choking is an emergency condition that requires immediate treatment. Choking can be caused by a foreign object in the respiratory tract that blocks oxygen from entering the body, resulting in death. Food, coins, toys, and other foreign objects often cause choking (**Alhidayat & Latif, 2022**). Statistics show that, in United States, 5% of all accident-related deaths in children under the age of 4 are caused by choking. These injuries are seen mainly in children under 3 years old and choking are the fourth leading cause of accidental death in this group and the third in infants under 1 year (**Brkic et al., 2018**).

In Egypt, unintentional injuries has become a concern, several studies were carried out in Egypt to estimate the magnitude of home injuries. Study in Egypt indicates that choking accounted for (13.1%) of the total child accidents (**Mohammed et al., 2019**). Children spend most of their time at home, and mothers are usually the ones assigned to their supervision. In these situations, mothers are usually the first responders, and in order to react properly, mothers must have a good knowledge about first aid. Early and appropriate intervention is important to reduce the risk and complications (**Al Anazi et al., 2022**). So that from the research point of view it is important to assess awareness of mothers regarding first aid of choking among their children especially during first five years of life.

• **Aim of the study:**

The study aimed to assess mothers' awareness regarding first aid of choking among their children under five years.

• **Research Questions:**

The research answered the following questions:

1. What is the level of mothers' knowledge regarding first aid of choking?
2. What are the mothers' reported practice regarding first aid of choking?
3. Are mothers having positive attitude toward first aid of choking?
4. Are there a relation between mother's knowledge, attitude and practice regarding first aid of choking?

• **Operational definition: -**

Choking first aid: is the immediate care given to choking person until full medical treatment is available.

Mothers' awareness: it means knowledge, practice and attitude toward first aid of choking.

2. PATIENTS AND METHODS

Subjects and methods for this study were portrayed under four main designs as follows:

- | | |
|---------------------------|----------------------|
| I - Technical item | II- Operational item |
| III - Administrative item | IV- Statistical item |

I- Technical design:

The technical design includes research design, setting, subjects and tools for data collection.

1- Research design:

A descriptive research design was used for conducting this study.

2- Settings:

This study was conducted at pediatric outpatient clinics affiliated to Fayoum General Hospital.

3-Sampling:

Type of the sample:

A convenience sample of 110 mothers had children under five years was used in this study to collect data throughout 6 months (from April\ 2022 to

September \ 2022) through under the following inclusion criteria:

Inclusion criteria:

-Mothers had children under five years, attended to pediatric outpatient, accepted to participate in the study and have children free from any chronic physical and mental disease.

• **Tools of data collection:**

Data was collected through using the following tool.

Tool (I): A Structural Interviewing questionnaire: It was adapted from **MaalimIssack et al., (2021)** and modified by the researcher in the light of content relevant to suit the nature of study and assess mothers' knowledge about first aid of choking. It translated by researcher into Arabic language and consisted of 3 parts:

Part 1: Characteristics of studied mothers: about mothers age, number of children, educational level, occupation, place of residence (urban or rural) and marital status.

Part 2: Characteristics of children: about age, gender and education.

Part 3: mothers' knowledge regarding first aid of choking:

This questionnaire was designed to assess knowledge of mothers about choking first aid which has one open end question about first aid for a child when choked by gas and 14 multiple-choice questions about signs, symptoms, causes, types etc.....

• **Scoring system:**

Knowledge of mothers was scored and calculated according to their responses, it was evaluated using the models answers sheet that was prepared by the researcher, each question had a score ranged from 0-2 grades, whereas complete correct answer had score 2 grades, incomplete correct answer had 1 grade and score zero was for an incorrect answer. The total score was 30 grades (equal 100%). The total score converted to percentage and then categorized as following:

- If percent score was $\geq 60\%$ (18: 30 scores) considered satisfactory level of knowledge
- If percent score $< 60\%$ (zero: 18) considered Unsatisfactory level of knowledge.

Tool III: Observation checklist

It was adopted and modified by the researcher after reviewing related procedures from Canadian Red Cross. (2012).This checklist included 3 practices which used to assess mothers practices toward first aid of choking including, Conscious Choked Child (Heimlich maneuver), Conscious Choked infant (back blow and chest thrust), an unconscious Choked Child and infant (CPR).

• **Scoring system:**

Each step in the observation checklist sheet was checked as done and not done. The total score of all practices were 35 grades. Each done practice was given one (1) grade. Not done practice was given

zero (0) grade. The total score of all practices converted into percentage as the following

- Complete practice $\geq 75\%$.
- Incomplete practice $< 75\%$.

Tool II: Mothers' attitude assessment scale about choking first aid (Likert Scale):

Which adopted from (Ibrahim et al., 2016), and translated into Arabic language by the researcher to suit the nature of the study and to assess mothers' attitude about choking first aid. This scale consists of 7 items and graded into strongly agree, agree, not-sure, disagree and strongly disagree.

• **Scoring System:**

The scale consisted of seven items focused to assess the attitude of mothers towards choking first aid using a five-point Likert scale with the value as follow; 1 score for strongly disagree, 2 for disagree, 3 for not sure, 4 for agree and 5 for strongly agree. Negative items were reverse coded and the answers to show low to a high level for the questions were negatively worded (1-strongly agree, 5 strongly disagree). Participants who responded agree and strongly agree have taken as positive (1) and those disagree and strongly disagree were negative attitude (0). The total score converted into percentage and then categorized as following:

- If percent score was $\geq 60\%$ considered positive attitude
- If percent score $< 60\%$ considered negative attitude.

• **Tools validity:**

The content validity of the tools was reviewed by 3 experts from Faculty of Nursing - Helwan University and Fayoum university (2experts specialized in pediatrics health nursing and one expert in medical surgical nursing to test the content validity of the tools for clarity, relevance, comprehensiveness, understanding and applicability and needed modifications were done.

• **Tools reliability:**

Reliability of the tools tested by using cronbach's Alpha for testing internal consistency of the tools was performed. The result was 0.795 for mothers Knowledge questionnaire sheet, 0.827 for mothers' attitude and 0.815 for mothers practice.

• **Ethical Consideration**

An official permission to conduct the proposed study was obtained from the Scientific Research Ethics Committee. Participation in the study was voluntary and subjects were given complete full information about the study and their role before signing the informed consent. The ethical considerations included explaining the purpose and nature of the study, stating the possibility to withdraw at any time, confidentiality of the information where was not accessed by any other party without taking permission of the participants. Ethics, values, culture and beliefs was respected.

II) Operational Item:

Preparatory phase:

It was included reviewing of past, current, national and international related literature and theoretical knowledge of various aspects of the study using books, articles, internet, periodicals and magazines to develop tools for data collection

• Pilot Study:

A pilot study was carried out on 10% of the subjects equal (11 mothers) based on sample criteria, it has been conducted to test the clarity, applicability and understand ability of the tool. Little modification was done as replacing and arrangements of some items. The involved mothers of the pilot study were excluded later from the main study sample.

• Field work:

The actual field work was carried out for data collection over 6 months started from July 2022 years till end of December 2022 years, approval was obtained from the concerned authorities in the faculty of nursing Helwan university on 26 May 2022 directed to the concerned authorities of general Fayoum hospital which was approved on 27 June 2022. The investigator met the mothers one day per week to fill questionnaire from 9 am to 12 pm, the purpose of the study was explained by the researcher to each mother accompanying her child before sharing interviewing and data collection in addition to clear and brief idea about aim of the study and its expectation. Mothers were interviewed individually and the questionnaire format was filled in by the educated mothers and by the investigator for illiterate mothers. The questionnaire took about 20 minutes for mothers who filled it individually and also 30 minutes for the investigator during filling it for illiterate mothers with a total of approximately 6 mothers each week consists about 24 mothers per month, total number of mothers = 110 mothers.

III) Administrative Item:

An issued letter from the Dean of faculty of Nursing Helwan University to the director of Fayoum general hospital to conduct the study, this letter included a permission to collect the necessary data and explain the purpose and nature of the study.

IV) STATISTICAL ITEM:

The collected data was organized, categorized, tabulated, entered and analyzed by using SPSS (statistical package for social science), software program version 20. Statistical presentation and analysis of the present study was conducted, using the mean, standard deviation, chi-square test was used to compare between groups in qualitative data

and linear correlation coefficient was used for detection of correlation between two quantitative variables in one group. By (*IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp.*).

• Significant level:

>0.05 Non-significant <0.05* significant <0.001* High significant

3. RESULTS

Table (1): this table presents mothers' characteristics it was clarified that mean age of them was 33.24 year and more than half of them (53.6%) had intermediate education. Regarding place of residence this table show about half of mothers were living in rural area. On the other hand 76.4% of mothers were housewife. The study also revealed that the majority (90%) of them had not taken previous first aid training program. additionally; about half of them had more two children. This table clarified that (25.5%) had previous incident history and most of them (92.9) occurred inside the house.

Table (2): Clarified that 34.5% of studied mothers had satisfactory knowledge. Two third 65.5% of studied mothers had unsatisfactory knowledge regarding first aid of choking.

Table (3): Showed that 64.5% of mothers had positive attitude regarding first aid of choking. Meanwhile, 35.5% of them had negative attitude.

Table (4): Showed that more than two third of mothers (70.9%) had incomplete first aid of choking.

Table (5): There was high statistically significant between total knowledge with Level of education, Place of residence and Occupation when p-value <0.001*. Statistically significant between total knowledge and Previous first aid training when p-value <0.05*.

Table (6): There was high statistically significant between total attitude with level of education, Place of residence and Occupation when p-value <0.001*. Meanwhile there was statistically significant between total attitude with Previous first aid Training and Previous incident when p-value <0.05*.

Table (7): There was high statistically significant between total attitude with level of education, Place of residence and Occupation when p-value <0.001*. Meanwhile there was statistically significant between total attitude and Previous first aid Training when p-value <0.05*.

Figure (1): Showed that 65.5% of mothers had unsatisfactory knowledge regarding first aid. While 34.5% of them had satisfactory knowledge

Table (1):Distribution of characteristics of studied mothers (n=110)

Mothers' characteristics	N	%
Age		
<20	4	3.7
20- <30	46	41.8
30- <40	56	50.9
40 or more	4	3.7
Mean±SD	33.24±5.87	
Level of education		
Illiteracy	27	24.6
Read and write	5	4.5
Basic Education	13	11.8
Intermediate Education	59	53.6
Higher Education	6	5.5
Marital status		
Married	107	97.3
Divorced	3	2.7
Place of residence		
Rural	55	50.0
Urban	55	50.0
Occupation		
Working	26	23.6
Not Working	84	76.4
Attending previous first aid Training program		
Yes	11	10.0
No	99	90.0
No. of children		
One	11	10.0
Two	43	39.1
more than two	56	50.9
Previous incident history		
Yes	28	25.5
No	82	74.5
If (yes), where is the place of the accident		
Inside the house	26	92.9
Outside the house	2	7.1

Table (2):Number and percentage of mother's knowledge regarding first aid of choking

Total knowledge	N	%
Satisfactory	38	34.5
Unsatisfactory	72	65.5
Total	110	100.0

Figure (1):Frequency Distribution of mother's knowledge regarding first aid of choking (n=110)

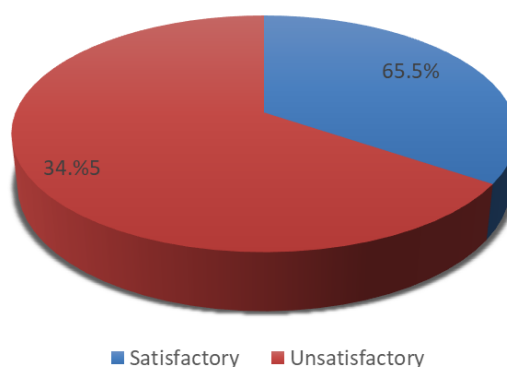


Table (3):Frequency Distribution of mother's attitude regarding first aid of choking (n=110)

Total attitude	N	%
Positive	71	64.5
Negative	39	35.5
Total	110	100.0

Table (4):Frequency Distribution of mother's practice regarding first aid of choking

Total practice	N	%
Done	32	29.1
not done	78	70.9
Total	110	100.0

Table (5):Relation between socio demographic characteristics of mother's and their knowledge

Items	Total knowledge					Chi-square	
	Satisfactory		Unsatisfactory		Total	X ²	P-value
	N	%	N	%			
Age							
<20	0	0.0	4	100.0	4	2.569	0.463
20- <30	16	34.8	30	65.2	46		
30- <40	20	35.7	36	64.3	56		
40 or more	2	50.0	2	50.0	4		
Level of education							
illiteracy	2	7.4	25	92.6	27	36.597	<0.001*
Read and write	0	0.0	5	100.0	5		
Basic Education	0	0.0	13	100.0	13		
Intermediate Education	30	50.8	29	49.2	59		
Higher Education	6	100.0	0	0.0	6		
Marital status							
Married	36	33.6	71	66.4	107	1.407	0.236
Divorced	2	66.7	1	33.3	3		
Place of residence							
Rural	6	10.9	49	89.1	55	27.178	<0.001*
Urban	32	58.2	23	41.8	55		
Occupation							
Working	18	69.2	8	30.8	26	18.115	<0.001*
Not Working	20	23.8	64	76.2	84		
Previous first aid Training							
Yes	8	72.7	3	27.3	11	7.880	0.005**
No	30	30.3	69	69.7	99		
Previous incident							
Yes	12	42.9	16	57.1	28	1.148	0.284
No	26	31.7	56	68.3	82		

Table (6):Relation between socio demographic characteristics of mothers and their attitude

Items	Total attitude					Chi-square	
	Positive		Negative		Total	X ²	P-value
	N	%	N	%			
Age							
<20	1	25.0	3	75.0	4	3.533	0.316
20- <30	32	69.6	14	30.4	46		
30- <40	35	62.5	21	37.5	56		
40 or more	3	75.0	1	25.0	4		
Level of education							
illiteracy	3	11.1	24	88.9	27	45.780	<0.001*
Read and write	4	80.0	1	20.0	5		
Basic Education	9	69.2	4	30.8	13		
Intermediate Education	50	84.7	9	15.3	59		
Higher Education	5	83.3	1	16.7	6		

Marital status							
Married	68	63.6	39	36.4	107	1.694	0.193
Divorced	3	100.0	0	0.0	3		
Place of residence							
Rural	24	43.6	31	56.4	55	21.015	<0.001*
Urban	47	85.5	8	14.5	55		
Occupation							
Working	25	96.2	1	3.8	26	14.865	<0.001*
Not Working	46	54.8	38	45.2	84		
Previous first aid Training							
Yes	11	100.0	0	0.0	11	6.714	0.010**
No	60	60.6	39	39.4	99		
Previous incident							
Yes	23	82.1	5	17.9	28	5.083	0.024**
No	48	58.5	34	41.5	82		

Table (7):Relation between socio demographic characteristics of mothers and their practice

Items	Total practice					Chi-square	
	Done		Not done		Total	X ²	P-value
	N	%	N	%			
Age							
<20	0	0.0	4	100.0	4	2.548	0.467
20- <30	13	28.3	33	71.7	46		
30- <40	17	30.4	39	69.6	56		
40 or more	2	50.0	2	50.0	4		
Level of education							
illiteracy	2	7.4	25	92.6	27	22.760	<0.001*
Read and write	0	0.0	5	100.0	5		
Basic Education	0	0.0	13	100.0	13		
Intermediate Education	27	45.8	32	54.2	59		
Higher Education	3	50.0	3	50.0	6		
Marital status							
Married	30	28.0	77	72.0	107	2.111	0.146
Divorced	2	66.7	1	33.3	3		
Place of residence							
Rural	3	5.5	52	94.5	55	29.792	<0.001*
Urban	29	52.7	26	47.3	55		
Occupation							
Working	16	61.5	10	38.5	26	17.378	<0.001*
Not Working	16	19.0	68	81.0	84		
Previous first aid Training							
Yes	6	54.5	5	45.5	11	3.839	0.050**
No	26	26.3	73	73.7	99		
Previous incident							
Yes	10	35.7	18	64.3	28	0.799	0.371
No	22	26.8	60	73.2	82		

4. DISCUSSION

Choking is a leading cause of injury and death among children, especially those younger than 5 years of age. The majority of choking that happened in children occurs unintentionally with food, coins, and toys that block the airway and prevent oxygen from getting to the lungs and the brain. The mothers are considered the primary caregiver for their children so they should be educated well about how to deal with the choking child to reduce the incidence of death from choking **Syan et al., (2022)**. Meanwhile, this study was conducted to assess mothers' awareness regarding first aid of choking among their children under five years.

As regard characteristics of the studied mothers, the findings of the present study stated that, half of the studied mothers aged between 30 to less than 40 years and mean age of them was 33.24 year. These results were in accordance with the study performed by **Ali and Mahmud (2021)** who studied Prevention and First Aid of Mechanical Airway Obstruction among Children: Supportive Strategies for Mothers in Egypt indicted that, half of the studied mothers aged between 30 to 40 years and mean age was 34.13 ± 8.97 years old. On the contrary **Syan et al., (2022)** who studied Effect of educational Program about first aid and prevention of choking for mothers of Preschool age children in Egypt who found that, about half of studied mothers' age was 20 to 30 years.

Concerning educational level, the results of the current study showed that, more than half of studied mothers had intermediate education. This result goes in line with a study done by **Sabry Zedain et al., (2022)** who studied Mothers' Knowledge and Practices Regarding First aids Management of Domestic Accidents among Under-Five Children in El-Beheira Governorate in Egypt who found that more than two fifths (45.1%) of the mothers had secondary education. On the contrary **Al Anazi et al., (2022)** who studied Impact of health education on maternal knowledge regarding choking prevention and first aid in children, Riyadh, Saudi Arabia who found that, about more than half of studied mothers had higher education.

As regarding place of residence, it was observed that the mothers are equally distributed between urban and rural areas with fifty percent (50%) for each. This result is in consistent with **Sabry Zedain et al., (2022)** who found that the mothers are equally distributed between urban and rural areas Also, this study disagrees with **Ghmaird et al., (2021)** who studied Saudi mothers' awareness and first aid management of unintentional injuries to children in the home 2021 who found that, about more than three quarter of studied mothers were from urban areas.

Regarding to Previous first aid Training, the results of the present study showed that, the majority (90%) of them had not taken previous first aid training. This finding of the study results was in the same line with **Al Anazi et al., (2022)** who studied Impact of health education on maternal knowledge regarding choking prevention and first aid in children, Riyadh, Saudi Arabia and noted that all studied mothers had not taken previous first aid training. This finding contradicted with **Nour et al., (2018)** who studied knowledge, attitude and practices of mothers towards home accidents among children, Makkah, KSA they found that, one quarter of studied mothers had taken previous first aid training, may be due to majority of them had higher education.

In relation to mothers' knowledge regarding first aid of choking, the present study revealed that two thirds of the studied mothers had unsatisfactory knowledge regarding choking first aid. This may be due to lack of educational programs about choking prevention, they may be due to that the studied mothers were from rural area and most of them are housewives with low education. The investigator point of view is that mothers' level of education and work could be factors that affect mothers' health-related behavior with their children. This finding is on the same line with those obtained by **Syan et al., (2022)** indicted that, and majority of the studied mothers (82.5%) had inefficient knowledge score regarding prevention and first aid of choking.

As for the mother's reported practice, the finding revealed that three quarter of them had poor practice of choking first aid. This result also were similar with the study conducted by **Laswad et al., (2023)** who found that more than three quarter of studied mothers had poor practice. Also, this study agrees with **Elfeshawy et al., (2022)** they found that nearly all of them have FBA poor practice management before the implementation of health education. Regarding parent's role in protection their children through making sure that caregiver who take care of their child know about the dangers of choking. The present study showed that about two third of mothers had positive attitude majority of respondents agreed that choking needs immediate management. This may be due to parents be careful by the education and increase awareness of caregivers who caring their children to protect their children from harming. In the same context with **Ghmaird et al., (2021)** who found that 98.1% of the mothers reported that it's important for mothers to learn first aid to deal with children's accidents. Also, this study agrees with **MaalimIssack et al., (2021)**. They found that majority (95.1%) of them scored the mean and above of attitude questions considered to have positive attitude towards providing first aid for a choking child. Majority of respondents agreed that choking needs immediate management.

There was statistically significant positive correlation between Total knowledge score and Total attitude with ($r= 0.672$), This result in the same line with Bassam, (2022). who studied Evaluate Maternal Knowledge and Attitude regarding First Aid among their Children in Buraidah city, KSA who found that, there was high positive correlation between total knowledge and total attitude related first aid.

Regarding awareness of mothers was significantly associated with their level of education, place of residence and occupation. This result in the same line with Ghmaird et al., (2021) who noted that awareness was significantly higher among highly educated participants from urban areas and those who work at the health care sector. Also, mothers with previous experience for child accident had higher awareness level regarding first aid and this mostly due to life experience. On the contrary MaalimIssack et al., (2021) who found that demographic data of participant has no association with their attitude and practice of choking first aid.

CONCLUSION:

Based upon the findings of the present study, it is concluded that:

Two third of studied mothers had unsatisfactory level of knowledge regarding first aid of choking. Also, more than two third of them have positive attitudes regarding first aid of choking. Regarding mothers reported practice revealed that more than two third of them had poor practice.

There was high statistically significant between knowledge and their characteristics mainly level of education, occupation and Previous first aid training. Also, there was statistically significant between mothers' attitude and their characteristics mainly level of education, Place of residence, Occupation, Previous first aid Training and Previous incident. There was high statistically significant between total practice with level of education, Place of residence, Occupation and Previous first aid Training. There was statistically significant positive correlation between Total knowledge score, total attitude and total practice regarding first aid of choking.

RECOMMENDATIONS:

In the light of the findings of this study, the following recommendations are suggested:

Constantly educational training program for mothers to increase awareness and improve their knowledge, practice and attitude regarding choking first aid.

Health promotion programs through pediatric nurses using new educational technology about choking first aid and prevention should be directed to mothers, children's caregivers, and teachers in all pediatric care settings and nursery schools.

5. REFERENCES

- Abdelmalik, M., Mohammed, M., Mohammed, A., Abdalla, A., Saeed, A., Sambu, B. and Beraima, M. (2022). Effects of Education Programs on School Students' Knowledge, Attitude, and Practice Regarding First Aid for a Choking Person in Saudi Arabia.
- Al Anazi, R., Mureh, B., Al Sulimani, H., Al Arfaj, G., Habeeb, K., & Kofi, M.(2022): Impact of health education on maternal knowledge regarding choking prevention and first aid in children, Riyadh, Saudi Arabia. *Age (Mean, SD)*, 30, 5-18.
- Alhidayat, N., & Latif, A. (2022): THE EFFECTIVENESS THE COMBINATION OF DEMONSTRATION AND ROLE-PLAY METHODS TO IMPROVE KNOWLEDGE ABOUT CHOKING MANAGEMENT. *Journal of Islamic Nursing*, 7(2), 50-56.
- Ali, N., & Mahmud, S. (2021): Prevention and First Aid of Mechanical Airway Obstruction among Children: Supportive Strategies for Mothers. *Indian Journal of Forensic Medicine & Toxicology*, 15(1), 2733-2740.
- American Academy of Pediatrics 2016.: First Aid Guide for Parents & Caregivers. American Academy of Pediatrics; Available from: <https://www.healthychildren.org/English/safety-prevention/at-home/Pages/First-Aid-Guide.aspx>.
- Bassam, S. (2022): Evaluate Maternal Knowledge and Attitude Regarding First Aid Among their Children in Buraidah City, Ksa. *湖南大学学报 (自然科学版)*, 49(04).
- Behboudi, F., Pouralizadeh, M., Yeganeh, M. R., & Roushan, Z. A. (2022): The effect of education using a mobile application on knowledge and decision of Iranian mothers about prevention of foreign body aspiration and to relieve choking in children: A quasi-experimental study. *Journal of Pediatric Nursing*, 62, e77-e83.
- Brkic, F., Umihanic, S., Altumbabic, H., Ramas, A., Salkic, A., Umihanic, S., ... & Zulcic, S. (2018): Death as a consequence of foreign body aspiration in children. *Medical Archives*, 72(3), 220.
- Canadian Red Cross society: (2012). Skills Checklist – Frontline First Aid & Emergency Training, (3-5). Available from https://www.redcross.ca/crc/documents/What-We-Do/First-Aid-and-CPR/Workplace/Online-Tools/fa_onlinetools_skills_checklist_cpr_and_aed.pdf
- Cramer N, Jabbour N, Tavarez MM, et al. (2022): Foreign Body Aspiration. In: *StatPearls [Internet]*. Treasure Island (FL):

- StatPearlsPublishing; 2022 Jan- Available from:
<https://www.ncbi.nlm.nih.gov/books/NBK531480/>
- Dodson, H. & Cook, J. (2021): Foreign Body Airway Obstruction. In StatPearls [Internet]. StatPearls Publishing.
- Elfeshawy, R., El Sobky, F. A., Mohamed, F. K. I., &Darweesh, H. A. M. (2022): Effect of health education program-based on a health belief model on mothers' knowledge and practices regarding choking prevention and management for their children. *Tanta Scientific Nursing Journal*, 25(2), 235-257.
- Ghmaird, A., Alabdullah, W., Alquayr, S., Alhejaili, M., Alshomrani, S., &Alsofyani, N. (2021): Saudi mothers' awareness and first aid management of unintentional injuries to children in the home2021
- Habeeb, K. A., &Alarfaj, G. (2020): Saudi parents' awareness regarding burn, choking, and drowning first aid in children. *Journal of family medicine and primary care*, 9(3), 1370.
- Ibrahim H., & Mustafa S.(2016): Knowledge and attitude of primary school teachers regarding choking's first aid in Erbil city- Kurdistan Region—Iraq. *Oct;8(2):37–9.*
- Laswad, B., Alsulaimani, H., Alomairi, M., Alsulami, R., Alobaidi, S., Aljabri, H., &Ageel, M. (2023): Parental Knowledge and Practices Related to Foreign Body Aspiration in Children in Makkah, Saudi Arabia. *Cureus*, 15(2).
- MaalimIssack, A., Jiru, T., &WubetieAniley, A. (2021): Assessment of knowledge, attitude and practice on first aid management of choking and associated factors among kindergarten teachers in Addis Ababa governmental schools, Addis Ababa, Ethiopia. A cross-sectional institution-based study. *Plos one*, 16(7), e0255331.
- Mohammed, H.,Wassif, G.,Hakim, S. &Moustafa, M. (2019): Frequency of unintentional home injuries in children under five years and its relation with environmental risk factors, Cairo, Egypt. *Egypt J Community Med*, 37(3)
- Nour, M., Alharbi, W., Alawneh, S., Al Ansari, A., Al–Luqmani, A., Alharbi, A., & Al-Malki, A. (2018): Knowledge, attitude and practices of mothers towards home accident among children, Makkah, KSA. *European Journal of Phamaceuticalans Medical Research*, 5(2), 139-47.
- Sabry Zedain, N., Abdel Aziz Madian, A., & Ibrahim Mostafa Radwan, R. (2022): Mothers' Knowledge and Practices Regarding First aids Management of Domestic Accidents among Under-Five Children in El-Beheira Governorate. *Egyptian Journal of Health Care*, 13(4), 1697-1710.
- sarabi, N. and Nosratabadi, M. (2022): Effectiveness of Video Education on Mothers' Knowledge of Hazard Factors and First Aid Administration in Choking Incidents. *Journal of Comprehensive Pediatrics*, 13(2)
- Syan, S., Zaki, N., Abd-Alfatah Ahmed, A., &Alsayed Ali, F. (2022): Effect of educational Program about first aid and prevention of choking for mothers of Preschool age children. *Assiut Scientific Nursing Journal*, 10(33), 1-11.