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Effect of educational Program about first aid and prevention of choking for mothers of Preschool age children

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Abstract
Background: Choking is an important public health problem for young children. Choking hazards are primarily associated with food, coins, and toys. The comprehensive choking-prevention effort will rely on the education of parents, teachers, and childcare workers. **So, this study aimed to:** Evaluate the effect of educational Program about first aid and prevention of choking for mothers of preschool-age children. **Research Design:** Quasi-experimental design was utilized in this study. **Subjects:** Included a convenience sampling of 200 mothers from outpatient clinics at Assuit university children's hospital. **Tools of data collection:** Three tools included Personal characteristics of mothers and their children, mothers' knowledge and practices regarding choking first aids and prevention. **Results:** The majority of the studied mothers (82.5%) had inefficient knowledge score regarding prevention and first aid of chocking while only 17.5% of them had efficient knowledge before mobile education compared to 99.5 % of them had efficient mean knowledge after mobile education. There were statistically significant differences between the mother's knowledge and reported practice pre and post-Mobile-based program application for choking prevention (*P* value <0.001). **Conclusion:** The mother's knowledge and reported practices regarding choking prevention were improved after the implementation of the mobile-based program. **Recommendations:** Health promotion programs through 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 sittings and nursery schools.

Keywords: First aids, Mothers, Prevention of choking & Program.

Introduction
Choking causes serious unintentional injuries occurring in childhood are the leading cause of death among children in the age group 1 to 19 years, representing nearly 40% of all deaths in this age group. Each year, an estimated 8.7million children and teens from birth to age 19 years are treated in the emergency departments (EDs) for unintentional injuries and more than 9,000 die because of their injuries—one every hour **(Frieden et al., 2012)** Choking is hazardous for all ages. It is the fourth leading cause of unintentional injury or death followed by poisoning, motor vehicle accident, and falls **(National Safety Council (NSC), 2015).**
Choking is defined as "a foreign object that is stuck in the pharynx (back of the throat) or trachea (windpipe) that causes a blockage of, or muscular spasm in the airway. If there is mild airway obstruction, the mother should be able to clear it, but if it is complete the child will be unable to speak, cough, or breathe. Unless there is intervention at this point the child will become unconscious and could die. Choking is defined as a quick onset of respiratory distress that is accompanied by coughing, gagging, and stridor (loud, harsh, and high-pitched respiratory sound). Other types of airway blockage, such as laryngitis and epiglottitis, might have similar signs and symptoms and require distinct treatment. **(The British Red Cross, 2019; & Lu, et al., 2017).**
Choking etiology differs by age group, necessitating distinct preventive treatment measures for different age groups to address this condition. The public, parents, and childcare providers should be educated about the danger of choking through the media. The most significant weapon in preventing this deadly incident is education and awareness. **(Ala'a, et al., 2018; & Kernell, et al., 2018; & Johnson, et al., 2017).**
First aid instructions provide information and skills to improve children's safety by providing security awareness and practices. Nurses' roles are to provide supportive needs and preventive measures for mothers of preschool-aged children, either individually or through their professional groups. Hence, Emergency management training activities that aren't part of a formal emergency management

system should be considered. Typically, these techniques expand on the current care provided by first responders, the community, and family members **(Adam, et al., 2015).**

According to the evidence, parents often take inappropriate actions that lead the aspirated body to deeper areas of the respiratory system, respiratory distress, and death **(Higuchi et al., 2013 & la Tour et al., 2017**). Lack of knowledge and the inability of parents to do first aid have been reported as one of the most important causes of suffocation and death in children with choking **(la Tour et al., 2017).** Therefore, considering that parents have the most important role in reducing the frequency of such accidents in children **(Mobasheri et al., 2016),** they should receive continuous and comprehensive training on the risks, complications, symptoms, and how to manage choking **(AlQudehy et al., 2015; Kim et al., 2015 & Wu et al., 2015).**

Thus, providing training to prevent choking in children, empowering parents to properly perform life support measures, and increasing their awareness about the dangers of choking can save the children's lives. Such training is cost-effective for both educational and medical systems **(Adramerina et al., 2016; AlQudehy et al., 2015 & Higuchi et al., 2013).**

Increased access to smartphones has provided the opportunity for expansion and application of using mobile-based educational programs. In addition, their ease of use has resulted in the dramatic growth of such programs in the field of health **(McKay et al., 2018).** The World Health Organization (WHO) has recommended mobile-based educational applications as comprehensive educational methods for health systems **(Morse et al., 2018).** Also, in the current situation that the world is engaged with the COVID-19 pandemic and the emergence of other infectious diseases as well as recommendations to observe the social distance, virtual education is emphasized by educational systems and communities more than ever **(Peyravi et al., 2020).** Virtual education is an attractive, popular, relatively inexpensive, and accessible method that may be used without any time and space limitations **(Kim et al., 2017)**

The pediatric nurse plays a big role in the prevention of choking in preschool-age children through increasing awareness of mothers' knowledge and practices regarding choking prevention, its complications, and its effect on their children's life. Interventions can be divided into those that prevent the onset of complications (primary prevention) and those that slow or halt their progress (secondary intervention). The goal of a prevention strategy involves changing potentially modifiable risk factors.

Significance of the study:

Choking is a leading cause of injury and death among children, especially those younger than 4 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. So, the current study aimed to evaluate the effect of educational Program about first aid and the prevention of choking for mothers of preschool-age children.

Aim of the study

This current study aimed to evaluate the effect of educational Program about first aid and prevention of choking for mothers of preschool-age children.

Objectives of the study

- Assess the level of mother's knowledge and reported practices regarding first aid and prevention of choking for mothers of preschool-age children.
- Design the education program about first aid and prevention of choking for mothers of preschool-age children.
- Implement the program of first aid and prevention of choking for mothers of preschool-age children.
- Evaluate the effect of educational Program about first aid and prevention of choking for mothers of preschool-age children.

Hypothesis

H1: There will be significant differences between pre-and post- mobile-based program applications for mothers of preschool-age children knowledge and reported practices scores regarding prevention and first aid maneuver of choking.

H2: There will be a significant association between mothers' knowledge and their reported practices.

Null Hypotheses

There will not be significant differences between pre-and post- mobile-based program applications for mothers of children preschool-age children knowledge and reported practices scores regarding prevention and first aid maneuver of chocking.

Subjects and Methods

Research design:

Quasi-experimental research design (pretest-posttest) was utilized in this study.

Setting:

The study was carried out in pediatric outpatient clinics at Assiut university children's hospital.

Sample

A convenience sampling was carried out, 200 mothers of preschool-age children participated in the study. The sample was calculated by using power analysis

according to the population flow at a confidence interval 95% with precision levels 5% and $p \leq 0.05$. The study subjects were selected according to the following criteria:

Inclusion criteria:

- Mothers of preschool children aged from 3-6 years
- Mothers who own a modern mobile that allows viewing videos and can deal with it.
- Willing to participate in the study.
- Mothers didn't have hospitalized children with acute or chronic conditions.

Tools of the study:

Three tools were utilized for this study as the following:

Tool I: Structured interview questionnaire was developed by the researchers based on an extensive review of related literature and consultation of the experts and it includes

Personal data of the mother as the mother's age, level of education, occupation, residence, family income, and previous hearing about the prevention or first aid for choking.

Tool II and Tool III are adopted from **Couper et al., (2020) & Resuscitation Council Uk, (2021**).

Tool II Mothers' Knowledge about choking: Regarding the mothers' knowledge about chocking, which includes definition of chocking, causes, types, clinical manifestation, first aid and prevention, Source of mothers' knowledge about choking and previous experience of chocking for her child, it included 6 questions.

Scoring system:

Scoring system for mothers' knowledge: The scoring system was graded according to the items of the interviewing questionnaire; mothers' answers were evaluated using a model answer sheet prepared by the researchers. The answer was scored 2 for correct answer and zero for incorrect answer) with a total score of 12 for mothers' knowledge. A score <75% (9 score) was considered inefficient, while a score≥ 75% (9) and more were considered efficient **(Bassam & Nassar, 2022).**

Tool III: Consists of two parts: **Part (A)** Includes Mothers' reported practices regarding first aid for child chocking:

Mothers' reported practices regarding first aids for child chocking, checklist include standardized steps for first aid used in reliving of chocking for children, contains 5 items.

Part (B): Includes Mothers' reported practices regarding prevention of child chocking:

Mothers' reported practices regarding first aids for child chocking, checklist include standardized steps for prevention of chocking in children, contains 4 items.

Scoring system:

Scoring system for mothers regarding their reported practices first aid for child choking: The scoring system was graded according to the items on the checklist. Answers to items were in form of done (score=2) and not done (score=1) the scoring system of the checklist was 18 marks, scores <75% (13) were considered unsatisfactory and scores ≥75% and more (13) considered satisfactory **(Issack et al., 2021).**

Methods of data collection:

- Official permission was taken from the Dean of Faculty of Nursing to Assiut University Children Hospital's manager to collect the data after clarifying the study purpose.
- A structured interview questionnaire was developed by the researchers based on the relevant literature.
- **The validity index of the tools** was judged by a jury of five university professors in the field of Pediatric to examine the content validity (covering, clarity, wording, length, format, and overall appearance) and, equally, 93% for tool II and 95%. For tool III Reliability test was done using Cronbach's test to be accepted reliability on (Cronbach alpha was 0.82. for tool II and 0.88 for tool III.
- The ethical agreement was gotten from the Ethical Committee at the Faculty of Nursing - Assiut University. The reason and type of the research were explicated to the children's mothers. Correspondingly, mothers were notified that they can approve or not take part in the research. Oral consent was assured to share in the study by every mother and they were told that the data acquired would be private and were handled only for the study.
- A pilot study was carried out on 10% (20 mothers) of the sample size to ensure the clarity, applicability of the tools, test feasibility of the study, and estimate sample size and the time needed for data collection. The result of the pilot study confirmed that the study was feasible. Mothers who participated in the pilot study were included in the total sample size.
- **The educational program:** It is designed by the researchers depending on the pertinent literary texts. The goal of this program was improving mothers of preschool age children knowledge and reported practice regarding first aids and prevention of chocking. **It was applied in four phases as the following:**
- **Assessment phase:** The researchers assessed the mother's data as; age, mothers' level of education…etc.
- **Planning phase:** This phase included the arrangement for the conduction of the program such

as Teaching place, sessions, audiovisual aids, handouts, images etc.

- **Teaching Time:** The time of the program is decided according to the working time of pediatric outpatient clinic.
- **Teaching place:** This work was conducted in all Pediatric Out-Patient Clinic in Assiut University Children's Hospital in students' lessons room.
- **Teaching methods and materials:** The researchers used audiovisual aids (videos), lectures and discussion as a method of teaching and giving booklet handouts which were distributed to every mother at the end of the program.

Sessions: A clear explanation was given to them about the nature, aim, and expected outcomes of the current study. Mothers' oral approval was obtained, to participate in the study and they were assured of confidentiality, as well they were informed that they can withdraw at any time from the study.

The contents of the program were divided into **two sessions:** It was composed of teaching the mothers of school-age children concerning several aspects: **Session (1): Includes knowledge regarding chocking** e.g., Definition of chocking, Types of foreign body causes chocking, causes of chocking, do you know the Signs and symptoms for chocking? What about the First aid for chocking from your view? Prevention of chocking? During the initial interview, the researchers introduced themselves to initiate a line of communication and explain the nature and purpose of the educational video. Each mother was interviewed individually after explaining the purpose and method of the study. The interview with each mother took approximately 20 to 30 minutes and 30 minutes to ask the mother about each question and the researchers noted mothers, answers in the questionnaire. 16 mothers were interviewed on two days weekly.

Session (2): Includes Mothers reported practices regarding the first aids for chocking.in this session the researchers first interviewed each mother individually and ask her about first aids and prevention of chocking as reported by the mother then note her answers in the sheet. this session took 30minutes to fill the questionnaire and after that the researchers showed videos related to management and first aids of chocking via mobile and showed pictures in handouts and repeated videos several times to help the mother understand and to correct any misunderstanding. This took 30 minutes

Implementation phase: The educational program was conducted for three months; every mother took two sessions for two days to complete the program contents.

Evaluation stage: During this phase, the mothers' knowledge and reported practices were assessed one time after one week of the pretest to evaluate the effect of the educational program.

Fieldwork: The data were collected for three months during the period from the beginning of October 2019 to the end of January 2020 from Pediatric Outpatient Clinic at Assiut University Children's Hospital. The investigators met the mothers and presented themselves to the participated mothers and described the rationale and nature of the research during the meeting. The pretest was done through two meetings. In the first, the researchers filled out the structured form. In the second, the researchers explicated the educational program contents and contributed videos via mobile and a handout booklet for the participated mothers. About 8 mothers were interviewed/day two times/week (total number of mothers per week is 16). The needed time for completing all items in the form was about 20-30 minutes governed by the mothers' replies. The program contents were covered in videos and the booklet which enclosed images, posters in students' lessons room in the outpatient clinics. The estimated time to complete the post-test form was about 20-30 minutes. The post-test was done after one week of the pretest during their children's.

Statistical design and Data analysis

The Statistical Package for the Social Science (SPSS) version 20 was utilized for data entry, tabulation, and analysis, which was applied to frequency tables, number, percentage, and standard deviation (SD), Significant at $p \leq 0.05$ Descriptive statistics were computed to summarize the studied preschool children and their parents' characteristics.

Results

Table (1): Percentage distribution of the studied mothers according to their personal characteristics (n= 200)

Items	NO=200	%
Age		
< 20 years	8	4.0
20 < 25 years	46	23.0
25 < 30 years	58	29.0
30 < 35 years	54	27.0
35 > 40 years	34	17.0
Mean ± SD 32.33± 27.59		
Level of education		
Illiterate	36	18.0
Read and write	20	10.0
Primary education	6	3.0
Preparatory education	10	5.0
Secondary education	84	42.0
High education	44	22.0
Occupation		
Employed	36	18
House wife	164	82
Previous hearing about the prevention or first aid for choking		
Yes	56	28
No	144	72

Table (2): Frequency distribution of the studied mother's knowledge regarding chocking before and after mobile based program application (n= 200)

Mother 's' Knowledge Regarding chocking	Before using mobile education				After using mobile education				P-value
	Correct		Incorrect		Correct		Incorrect		
	No.	%	No.	%	No.	%	No.	%	
1. Definition of chocking	48	24	152	76	186	93	14	7	0.05*
2. Types of foreign body causes chocking	87	43.5	113	56.5	191	95.5	9	4.5	0.03*
3. Causes of chocking	68	34.0	132	66.0	182	91.0	18	9.0	0.001**
4. Signs and symptoms for chocking	79	39.5	121	60.5	179	89.5	21	10.5	0.010*
5. First aid for chocking from your view?	15	7.5	185	92.5	176	88	24	12	0.004**
6. Prevent ion of chocking	32	16	168	84	189	94.5	11	5.5	0.000**

**** Significant level at ≤ 0.05*** ***** Highly Significant level at ≤ .001*** ***Chi-square test was used***

Table (3): Frequency distribution of mothers' reported practices regarding the prevention of chocking before and after mobile based program application (N= 200).

Mothers' reported practices regarding the prevention of chocking	Before using mobile education				After using mobile education				P-value
	Done		Not done		Done		Not done		
	No.	%	No.	%	No.	%	No.	%	
Child should not eat foods such as hot dogs, sausages, peanuts and grapes without cutting into small pieces.	96	31.7	104	68.33	196	99.3	4	0.67	0.001**
Child should Sit down when eating (i.e., never run food in your mouths)		0.000 **							
Chew food thoroughly before swallowing	123	21.33	77	78.67	200	100	0	0.0	0.000**
Don't play with small objects, such as buttons and batteries, toys parts, latex or balloons	18	32.67	182	67.33	193	95.33	7	4.67	0.000**

**** Significant level at ≤ 0.05*** ***** Highly Significant level at ≤ .001*** ***Chi-square test was used***

Table (4): Frequency distribution of mothers' reported practices regarding the first aid of chocking before and after mobile based program application (n= 200).

Mothers reported practices regarding the first-aid for chocking	Before using mobile				After using mobile				P value
	Done		Not done		Done		Not done		
	No.	%	No.	%	No.	%	No.	%	
Do not interfere and encourage forceful coughing	45	25	155	75	189	98	11	2	0.059
Position the Child Have the child bend at the waist so the throat is lower than the chest.	0	0.00	200	100	200	100	0	0.00	0.000**
Give up to 5 Back Blows Strike the upper back between the shoulder blades with the heel of one hand.	146	0.73	54	0.27	200	100	0	0.00	0.034*
Give up to 5 Abdominal Thrusts Repeat the sequence of back blows followed by abdominal thrusts until the airway is cleared.	0	0.00	200	100	176	88	24	12	0.000**
Inspect the upper airway and remove any visible object with small finger.	0	0.00	200	100	189	95	11	5	0.000**

** Significant level at ≤ 0.05* *** Highly Significant level at ≤ .001* *Chi-square test was used*

Table (5): Correlation between mothers' knowledge and reported practice regarding prevention and first aid of chocking before and after mobile based program application (n= 200)

Correlations	Mothers' Knowledge	
	R	P
Mothers' reported Practice		
Before using mobile	0.456	0.035*
After using mobile	0.821	<0.001**

Statistically Significant Correlation at P .value <0.01

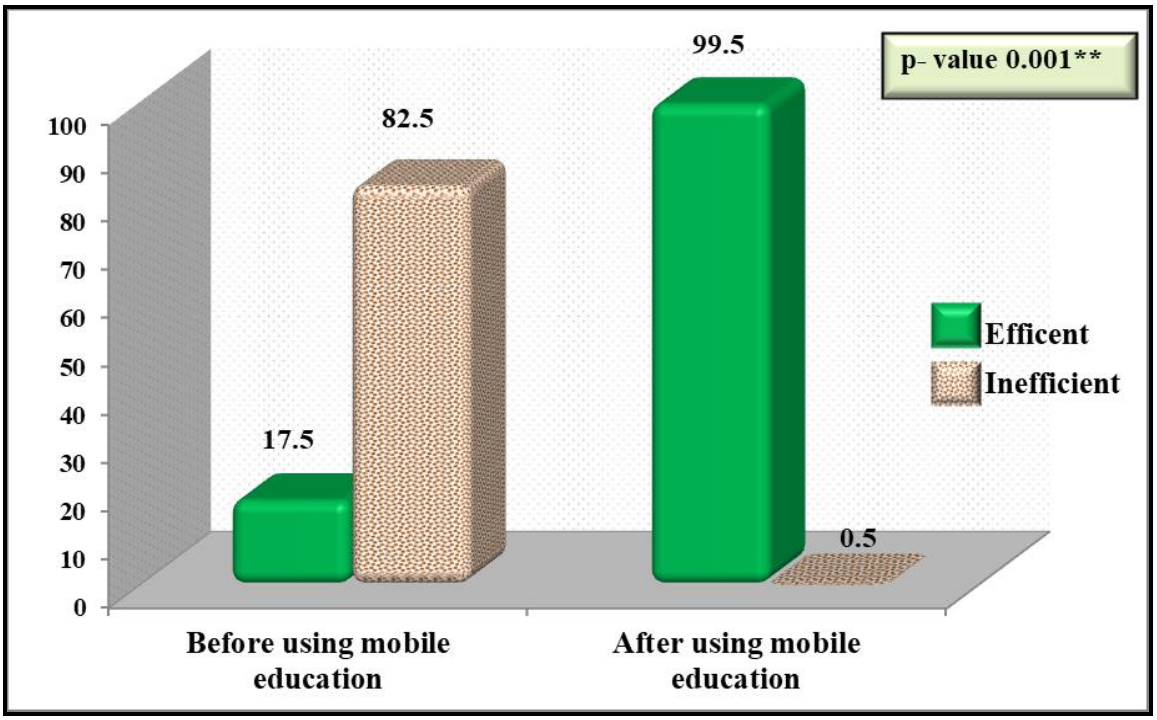

Figure (1): Distribution of studied mother's Total Knowledge Score Regarding Prevention and First aid of chocking before and after mobile based program application (n= 200)

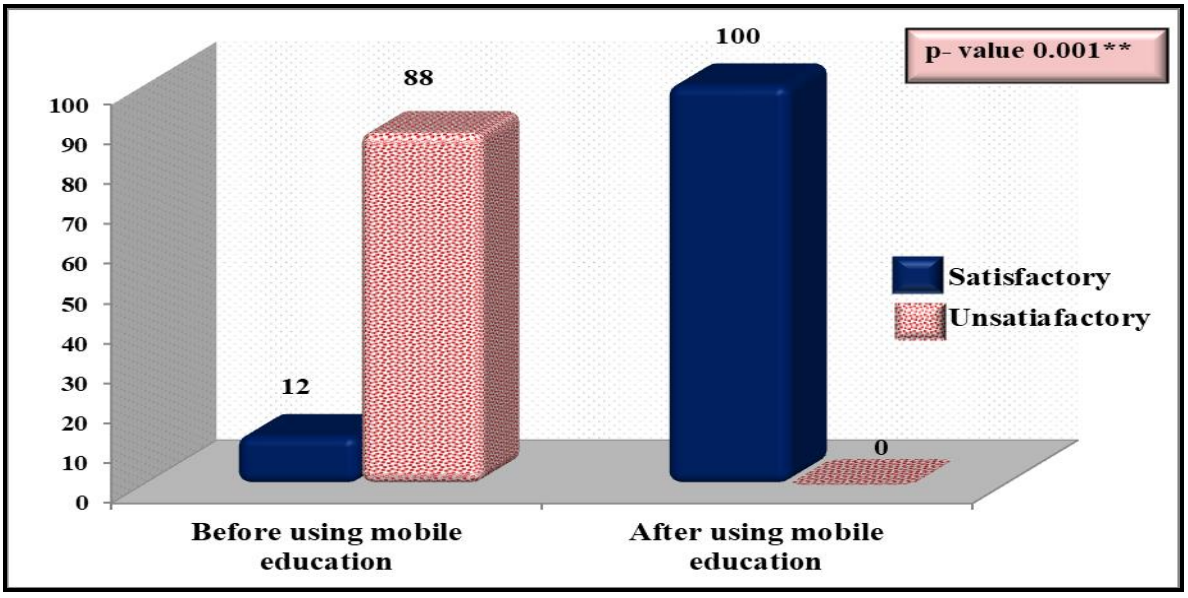

Figure (2): Distribution of the mother's Total practice Score Regarding Prevention and First aid of chocking before and after mobile based program application (n= 200).

Table (1): Showed that, the mean age of the studied mothers was 32.33± 27.59 years, more than one third (42%) of the mothers had secondary level of education. Higher education was represented by 22%. As regards the mothers' working state majority of them (82%) were house wife. Nearly three quarters of them (72%) hadn't any previous knowledge about the prevention or first aid for choking.

Table (2): Illustrated the frequent distribution of the studied mother's knowledge regarding chocking before and after program using mobile education. It was found that, most of mothers responded that they don't know answers related the questions of first aid for chocking from your point of view and prevention of chocking before the educational program (92.5% and 84% respectively) while after the educational program only 12% and 5.5 respectively were responded don't know. There was a highly statistically significant difference between mothers' knowledge regarding prevention and first aid of chocking before and after program using mobile education (*P*-value < 0.000).

Table (3): Revealed statistically significant differences were found between mothers' reported practices regarding the prevention of chocking before and after mobile based program application related all items in the table (P- value ≤ 0.001)

Table (4): Showed that, there were statistically significant differences between mothers' children reported practices regarding first aid of chocking before and after using mobile education related all items in the table except item of Do not interfere and encourage forceful coughing (p-value ≤0.000).

Table (5): Showed that there was statistically significant differences were found between mothers' knowledge and reported practices regarding prevention and first aid of chocking before and after using mobile education (r= 0.456, P-value= 0.035) and (r= 0.821, P-value= <0.001) respectively.

Figure (1): Revealed that, majority of the studied mothers (82.5%) had inefficient knowledge score regarding prevention and first aid of chocking while only 17.5% of them had efficient knowledge before mobile education compared to 99.5 % of them had efficient mean score of knowledge after mobile education. with highly statistically significant differences were found between children total mean knowledge score before and after mobile education (*P*. Value < 0.001).

Figure (2): Revealed that, most of the studied mothers (88 %) had unsatisfactory practices' level regarding prevention and first aid of chocking before mobile education compered to one hundred percent of them had satisfactory practices' level after mobile education, with highly statistically significant differences were found between children total mean practices score before and after mobile education (*P*. Value < 0.001).

Discussion

Now and then we come across news of child death from aspiration of foreign objects. The unfortunate parts of all these events are most of them are preventable. It is needless to say that "Prevention is better than cure". The maneuvers are quite simple and can be given by anyone. Considering inquisitive

nature of child, lack of awareness in society itself becomes a significant risk factor in choking. Working sincerely towards awareness about choking seems to be need of the hour (**Kumar et al., 2019).** This study has been conducted to evaluate the effect of educational program about first aids and prevention of choking for mothers of preschool age children.

The present study is considered as the only conducted study for mothers addressing their knowledge and reported practice regarding choking first aid and prevention. A similar study encountered in extensive literature review is the one conducted by **Higuchi et al. (2013)** to evaluate parents' knowledge regarding foreign body aspiration (FBA), and determine the factors that are associated with lack of knowledge such as age of the parent and the number of children. Similar to our study, the parents were asked to fill out the questionnaire by the end of the check-up without consulting other persons; and the questions focused on knowledge of the risk factors and clinical presentation of FBA and on how to prevent FBA.

The study's results revealed that the mean age of the studied mothers was 32.33± 27.59. These findings were congruent with **Bentivegna et al (2018) & Davis, et al (2017)** in their studies as their results were almost the same to the present study. In addition, finding of the present study was supported by **Ahmed et al., (2007)** who found that mothers mean age and standard deviation were 33±7 years, in the same field **Gencpinar, & Duman, (2016).** Found that less than half of mother's age was ranged between (25-34) years old. In the same context **Baaker, (2010)** found that most accidental poisoning cases was belong to mothers aged 25-35 years.

Regarding mothers' level of education, more than forty percent of the mothers had secondary education while higher education represented by more than twenty percent, less than twenty percent of the mothers was illiterate. In contrast **Gencpinar, & Duman, (2016).** Found that more than half of the mothers were illiterate, while only two percent of them had university education. Less than sixty percent of the mothers were working, while **Varghese, & Issac, (2018). Gencpinar, & Duman, (2016).** indicated that most of the mothers were not working. Researchers' belief that mothers' level of education and work could be factors that affect the health-related behavior of them with their children.

In the current study, the results revealed that highest percentage of the mothers were experienced accidents among their children. In addition, **Lasi et al., (2010)** found that most of childhood accidents occur during play. According to **Hossein, (2009) & Saad et al (2005)** more than fifty percent of the mothers reported that they experienced accidents among their children. The present study revealed that most mothers reported correct management of choking; this result might reflect that the mothers can respond positively for mobile education for chocking prevention.

In the current study, the results revealed that mothers' knowledge related to first aid practices and prevention for chocking were significantly improved after the implantation of the mobile educational interventional program. This improved knowledge provides mothers with the baseline for practicing first aid measures with proper skills. *From the researchers' point of view,* these findings could be due to the careful assessment of educational needs of the mothers in addition to the most appropriate teaching methods as role play and Video-Assisted Instruction rather than lectures by the researchers before implementing the educational program and selecting the necessary content of training that would fulfil and satisfy the needs of the particular study group.

The present study illustrated that, most of mother answered incorrectly the questions related to first aid for chocking from your view, and prevention of chocking before the program. While after the program, few percent were answered incorrect, with highly statistically significant difference between mothers' knowledge regarding prevention and first aid of chocking before and after program using mobile education. Similarly, these findings were agreed with another study conducted by **El Seifi, et al., (2018)** who found that, the application of health education program among mothers having children less than five years improves their knowledge, self-efficacy, and attitude about home chocking; however, the improvement in first aid measures applied after injuries is much lower than that for choking prevention.

The present study showed that mothers are unaware of clinical signs suggestive of choking, such as sudden choking and coughing, mothers will not suspect choking in their symptomatic child if they did not know what typical symptoms and signs of choking are. In our current study, about forty percent of mothers consider absence of symptoms in case of choking as reassuring sign. According to a study carried out by **Higuchi et al. (2013)**, it was detected that 27.7% of parents participating in the study were unfamiliar to the symptoms of foreign body aspiration (FBA), and almost 25% of parents did not identify the symptoms of FBA.

The current study revealed that, most of the studied mothers had unsatisfactory practices score regarding prevention and first aid of chocking before mobile education compered to more than two thirds of them had good practices' score after mobile education, with highly statistically significant differences. These findings were in accordance with another study

conducted by **Mohamed, et a., (2018),** who stated in their study on applying training program about first aids found that there was an observed improvement in the correct answers' percentage in most items of the first aid knowledge as well as in the total mean scores of practices after the implementation of the training program with highly statistically significant differences at (*P*-value 0.0001) between pre-test, and post-tests.

Conclusion:

Based on the results of the present study, it was concluded that: Implementation of the program of first aid and prevention of choking for mothers of preschool-age children effectively improve their knowledge and practice. Also, there were statistically significant differences found between mothers' knowledge and reported practices regarding prevention and first aid of chocking before and after application of the program.

Recommendations:

Based on the study results, the following recommendations are proposed:

1. Mass media as T.V, pamphlets, and educational campaign has a vast responsibility in health awareness for choking prevention among mothers having children.
2. Health promotion programs through nurses using new educational technology about chocking first aid and prevention should be directed to mothers, children care givers and teacher in all paediatric care sittings and nursery school.
3. Practical trainings regarding first aid should be carried out systematically, staring from infant age and continuing through the adolescence.
4. Using new methods of educational technology as mobile application or simulation to increase the efficiency of improving the knowledge and practices of participants.

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