

## Effect of Role-Play Training on Mothers' Knowledge, Practices, and Self-Confidence in Preventing their Children from Choking and Foreign Body Aspiration

Heba Alkotb Mohamed<sup>1</sup>, Rehab Hassan Kafi<sup>2</sup> & Samar Mohammed Abdel-kader Alngery<sup>3</sup>

<sup>1</sup>. Associate Professor of Family and Community Health Nursing, Faculty of Nursing, Suez Canal University, Egypt.

<sup>2</sup>. Associate Professor of Pediatric Nursing, Faculty of Nursing, Suez Canal University, Egypt.

<sup>3</sup>. Lecturer of Family and Community Health Nursing, Faculty of Nursing, Suez Canal University, Egypt.

### Abstract

**Background:** Foreign body aspiration is a serious emergency in children, potentially leading to complications such as pneumonia, atelectasis, and choking. Educating mothers about the prevention and management of choking is crucial for reducing its associated morbidity and mortality. **Aim:** The aim of the study was to evaluate the effect of role-play training on mothers' knowledge, practices, and self-confidence in preventing their children from choking and foreign body aspiration. **Design:** The present study used a quasi-experimental research design. **Subjects:** A convenient sample of 125 mothers with their children. **Setting:** The study was conducted at the paediatric outpatient clinics in Suez Canal University Hospitals. **Tools:** Three tools were used: **Tool I:** A structured questionnaire on foreign body aspiration and choking. **Tool II:** An observational checklist for paediatric foreign body airway obstruction. **Tool III:** A self-confidence assessment scale. **Results:** The overall mean scores of mothers' knowledge and practices were higher immediately after role play training than before, with significant statistical differences, besides improvement in mothers' self-confidence levels in handling choking emergencies in children before and after training. **Conclusion:** Mothers' training through role-play regarding choking management from foreign body aspiration in their children significantly improved their knowledge, practices, and self-confidence levels. **Recommendations:** Continuous training of mothers using a non-traditional educational method such as role play regarding management of foreign body aspirations and choking in children is needed.

**Keywords:** Choking, Foreign body aspiration, Role play & Self-confidence and training.

### Introduction:

Foreign body aspiration (FBA) and choking are significant health risks for children, particularly those under the age of five. Due to their developmental tendency to explore their environment orally and their limited ability to chew and swallow properly, children are prone to aspirating small objects or food. This can lead to life-threatening airway obstruction, underscoring the critical importance of prevention (Alzahrani et al., 2024). Choking is a major cause of unintentional injuries and deaths in children, and many of these incidents can be prevented with proper awareness and prompt action. Caregivers, especially mothers, have the potential to be life-savers in these situations, and their understanding and action can make a crucial difference. This issue highlights the critical need for preventive education aimed at caregivers, especially mothers, who are often the primary caregivers for young children (Korycka et al., 2024).

Mothers of young children often spend most of their time at home and are in charge of supervising their children. Due to their poor knowledge and practices, they may take inappropriate actions during the choking event that lead the aspirated foreign body to

deeper areas of the respiratory system (AlRabiah et al., 2024).

Despite the widespread availability of educational materials on pediatric choking, research indicates that theoretical knowledge alone may be insufficient in helping caregivers respond effectively during emergencies (Behboudi et al., 2022). Panic, lack of confidence, and limited practical experience often hinder the application of life-saving techniques such as back blows, chest thrusts, or the Heimlich manoeuvre. Experiential learning methods such as role play have gained traction in health education to bridge this gap (Zheng et al., 2025).

A mother's self-confidence plays a critical role in preventing choking incidents in children, as it directly affects her ability to respond calmly and effectively during emergencies. When mothers feel confident in their knowledge and practices regarding choking hazards, they are more likely to take proactive measures and act decisively—potentially saving lives. Moreover, confident mothers are better equipped to educate others, including caregivers and older siblings, thereby expanding the circle of safety around the child. Ultimately, fostering maternal self-confidence through education and support is essential

to reducing the risk of choking among young children (Behboudi et al., 2022).

Role play offers a dynamic and interactive training approach, allowing participants to practice real-life scenarios in a safe, controlled environment (Pondete et al., 2022). By simulating choking incidents and practicing the necessary responses, mothers can build confidence, improve their life-saving techniques, and enhance their ability to prevent choking-related injuries in their children (Sarabi & Nosratabadi, 2022).

Nurses are tasked with the responsibility of equipping mothers with a comprehensive understanding of foreign body aspiration prevention and their children's choking management. This involves discussing prevention tips, clarifying the contributing factors to potential FBA in the household, and demonstrating choking management techniques. Such comprehensive educational programs are keys to reducing the incidence of FBA and preventing its complications (Anazi et al., 2022; Behboudi et al., 2022).

### Significance of the Study:

Foreign body aspiration (FBA) is a leading cause of illness and death in children, with choking being particularly prevalent in those under five years old (Antón Pacheco et al., 2021). Research indicates that most choking injuries occur in children under 5 years of age, representing over 75% of all injuries (230,437 injuries per year). Moreover, choking ranks as the fifth most frequent cause of accidental fatalities within this age group (Pondete et al., 2022). It's crucial to note that many mothers have limited awareness and insufficient knowledge about choking hazards, especially concerning children under five years old (Allam, 2024). This underscores the urgent need for increased awareness and education on this issue.

This study aims to investigate the effect of role play training on mothers' knowledge, practices and self-confidence on the prevention of foreign body aspiration and choking in their children. Specifically, it seeks to evaluate whether role play-based training improves mothers' knowledge of choking hazards, enhances their practical skills in emergency management, and fosters safer caregiving practices. By examining the effectiveness of this training method, the study hopes to contribute to the development of evidence-based interventions that reduce the incidence of pediatric choking and improve child safety outcomes.

### Aim of the Study:

The study aiming to evaluate the effect of role-play training on mothers' knowledge, practices and self-confidence in preventing their children from choking

and foreign body aspiration by focusing on the following objectives:

1. Assess mothers' knowledge regarding choking hazards, foreign body aspiration risks, and appropriate preventive measures both before and after the training
2. Examine mothers' practical skills regarding choking incidents, including performing life-saving techniques such as back blows, chest thrusts, and the Heimlich manoeuvre
3. Assess the effectiveness of training through role play in enhancing mothers' practical skills regarding choking incidents, including performing life-saving techniques such as back blows, chest thrusts, and the Heimlich manoeuvre.
4. Find-out whether role play-based training improves mothers' confidence in managing choking emergencies.

### Research Hypothesis:

**H0:** Training through role play doesn't improve mothers' knowledge, practical skills and confidence levels about foreign body aspiration, prevention and management of choking hazards.

**H1:** Mothers who receive training through role play are expected to demonstrate a statistically significant improvement in their knowledge, practical skills and confidence levels about foreign body aspiration, prevention and management of choking hazards, compared to before the training.

## Subjects and Method

### Study Design

This study employs a quasi-experimental pre-test/post-test design with an intervention group.

### Setting:

The study was carried out at pediatric outpatient clinics allied to Suez Canal University Hospitals. The pediatric outpatient clinics are located on the first floor at Suez Canal University.

### Sampling:

A convenience sample of **125 mothers** with their children were recruited from the previously described setting after meeting the following **inclusion criteria**:

1. Have at least one child aged 0–5 years old.
2. Are willing to participate in the study.
3. Have no prior training in first aid or choking prevention techniques.

### Exclusion criteria:

Mothers have children with known airway disorders or swallowing difficulties, as this may significantly alter choking risk, or the preventive measures required. Because, these cases need to be specifically addressed.

**Sample size:**

The sample size for this study was determined using Cochran's formula, with careful adjustments made for a finite population. Initially, a required sample size ( $n_0$ ) of 384 was calculated based on a 95% confidence level and a 5% margin of error. However, since the total number of eligible mothers in the study area ( $N$ ) was approximately 500, the final adjusted sample size was set at 125 mothers, following a thorough adjustment process.

**Data collection tools:**

**Three tools were used for utilizing the study as follows:**

**First Tool:** Choking knowledge structured questionnaire to assess mothers' knowledge before and after the training was developed based on (Korycka et al., 2024). It comprised two parts, **part (1)** covering demographic data (age, education level, occupation, number of children, and prior training in choking prevention) and **part (2)** concerning knowledge assessment through multiple-choice and true/false questions on choking hazards, symptoms of FBA, and appropriate preventive measures. Each correct answer is assigned one point, with total scores categorized as poor (<60%), moderate (60–75%), or good (>75%) (Younis et al., 2024).

**Second tool: Choking first aid observational checklist for practical skills assessment** was adapted from Bowden and Greenberg, (2015) to evaluate mothers' proficiency in performing choking first aid techniques including back blows, chest thrusts, and the Heimlich manoeuvre, during role-play scenarios. The evaluation will cover infant choking response, assessing proper positioning, as well as the correct execution of back blows and chest thrusts, and child choking response for those older than one year, focusing on the correct application of the Heimlich manoeuvre (abdominal thrusts) and appropriate action if the child becomes unconscious, such as initiating CPR. An observational checklist was used to rate each step, as done = 1, and not done = zero, with total scores categorizing skill levels as Satisfactory ( $\geq 60\%$ ) and unsatisfactory (< 60%) (Younis et al., 2024).

**Third tool: Confidence Assessment Scale**

The Confidence Assessment Scale was used to evaluate mothers' self-reported confidence in managing choking hazards before and after the training through role play (Behboudi et al., 2022; Zheng et al., 2025). This scale consisted of 9 statements assessing mothers' confidence in recognizing choking hazards, responding to emergencies, and performing first aid techniques such as back blows, chest thrusts, and the Heimlich manoeuvre. Mothers rated their confidence on a 5-point Likert scale, ranging from 1 (Not Confident at

All) to 5 (Very Confident) with total score of 45 points. The total score was calculated by summing individual item scores, with higher scores indicating a greater level of confidence. Accordingly, mothers' self-confidence levels were distributed as the following: Low confidence < 60% (5 – 27 points), moderate confidence 60% < 75% (28 – 34 points) and high confidence  $\geq 75\%$  (35 – 45 points) (Behboudi et al., 2022).

**Data Collection Procedure:****Pre-training phase:**

Official authorization for data collection was secured from the Dean of the Faculty of Nursing at Suez Canal University. A formal request was then submitted to the administrators of the pediatric outpatient clinic at Suez Canal University Hospitals, detailing the study's objectives to obtain their approval and support for its implementation.

**Ethical Considerations**

a. The study protocol was approved by the Scientific Research Ethical Committee at the Faculty of Nursing, Suez Canal University, under the code number (186 in 1/2023)

b. Written informed consent was obtained from all participating mothers after providing a clear explanation of the study's purpose and benefits. Participants were assured of their right to withdraw from study at any time without the need to provide a reason.

**Validity of the tools:**

The content validity of the study tools was assessed and confirmed by a panel of five expert professors specializing in pediatric nursing and community health nursing to ensure clarity, relevance, and appropriateness for the study objectives.

**A Pilot study:**

In order to assess the tool's feasibility, clarity, and applicability, thirteen mothers (10% of the sample) participated in a pilot study and then excluded from the research sample. Additionally, necessary modifications were done.

**Reliability of the tools:**

The reliability of the study tools was assessed through a pilot study, ensuring consistency and dependability in measurement. Cronbach's alpha was calculated, yielding a reliability coefficient of 0.899 for tool I, 0.745 for tool II, and 0.785 for tool III indicating acceptable internal consistency.

The data collection process spanned **six months**, from **December 2023 to May 2024**. The researcher collected data alternating between the designated settings on Sundays, Tuesdays and Thursdays. Data was gathered from **9:00 AM to 12:00 PM** during morning shift according to the following phases:

**Assessment phase:**

Participants completed the structured questionnaire and performed a baseline choking first aid skills assessment using the observation checklist.

**Planning phase:**

The planning phase of the role-play-based training program for mothers focused on enhancing their knowledge and practical skills in preventing and managing foreign body aspiration (FBA) and choking in children. The training aimed to educate mothers on choking hazards, early symptom recognition, and lifesaving first aid techniques such as back blows, chest thrusts, and the Heimlich manoeuvre. The program included theoretical instruction, hands-on demonstrations, and interactive role-play ensuring active participation and confidence-building. Training materials such as visual aids, mannequins, and educational booklets were used. Researchers followed a standardized protocol to ensure consistency.

**Training implementation phase:**

The training comprised 4 sessions and was conducted in small groups (6–10 mothers per session) and included the following components:

**Theoretical Session (30 minutes):**

This 30-minute session was crucial as it provided an in-depth understanding of foreign body aspiration (FBA) and choking in children and identified common choking hazards in the home environment. It also discussed preventive measures to reduce the risk of choking and provided an overview of emergency response techniques for choking incidents.

**Demonstration Session (20 minutes):**

The researchers demonstrated age-appropriate first aid techniques, including for infants (<1 year), Back blows and chest thrusts or for children (>1 year), The Heimlich manoeuvre (abdominal thrusts), and CPR techniques for cases where the child becomes unconscious.

**Role Play and Hands-On Practice (30–40 minutes):**

Mothers actively participate in role-play scenarios simulating choking emergencies. Each participant practiced choking first aid techniques on mannequins, guided by a trained researcher, ensuring they were prepared for real-life situations. Immediate corrections were provided to improve technique and confidence, ensuring participants felt supported throughout the training.

**Post-Training Review and Discussion (15 minutes):**

Summary of key learning points, open discussion for questions, and sharing of experiences, along with the distribution of educational booklets for future reference.

**Post-Training Evaluation**

After the training, mothers' knowledge and practical skills were reassessed. A post-training questionnaire,

like the one used before the training, measured improvements in their knowledge. A practical skills observation checklist was employed to evaluate their ability to correctly perform first aid techniques for choking. Additionally, confident scale was used to assess mothers' self-confident level regarding chocking management.

**Statistical Analysis**

Data was analysed using the latest version of SPSS software. Descriptive statistics, including the mean, standard deviation, frequency, and percentage, were employed to summarize demographic data and knowledge scores. To compare pre- and post-training knowledge and skill scores, paired t-tests or Wilcoxon signed-rank tests were used. A p-value of less than 0.05 was considered statistically significant.

**Results:****Table (1): Frequency distribution of Socio-Demographic Characteristics for studied Mothers and their children (n=125).**

Variables	No.	%
<b>Mothers' Age (years)</b>		
≤ 25 years	10	8.0
26 – 30 years	41	32.8
31 – 35 years	47	37.6
> 35 years	27	21.6
$\bar{x} \pm SD$ 29.76±6.13		
<b>Mothers' Educational Level</b>		
Read and write	13	10.4
Primary Education	19	15.2
Secondary Education	41	32.8
University or Higher	52	41.6
<b>Mothers' Occupation</b>		
Housewife	67	53.6
Employed	58	46.4
<b>Number of Children</b>		
One child	17	13.6
Two children	41	32.8
Three or more children	67	53.6
<b>Child age (years)</b>		
≤ 1 year	73	58.4
1-3 year	26	20.8
4 – 5 years	26	20.8
$\bar{x} \pm SD$ 1.86±1.3		
<b>Child gender</b>		
Male	76	60.8
Female	49	39.2

**Table (2): Mean difference of Mothers' Knowledge Regarding Choking and Foreign Body Aspiration Before and After Training**

Knowledge Domains	Before Training		Post-Training		t-test	P-Value
	Mean	SD	Mean	SD		
Definition of choking & FBA	44.32	30.44	71.52	24.66	8.23	< 0.001
Common choking hazards	27.40	27.76	70.00	23.55	13.52	< 0.001
Signs and symptoms of choking	21.20	24.81	66.40	25.42	14.87	< 0.001
Prevention strategies	32.20	28.72	92.60	25.21	18.22	< 0.001
Appropriate first aid response	32.60	32.72	66.40	25.42	9.46	< 0.001
<b>Total score</b>	31.54	28.89	73.38	24.85	16.32	< 0.001

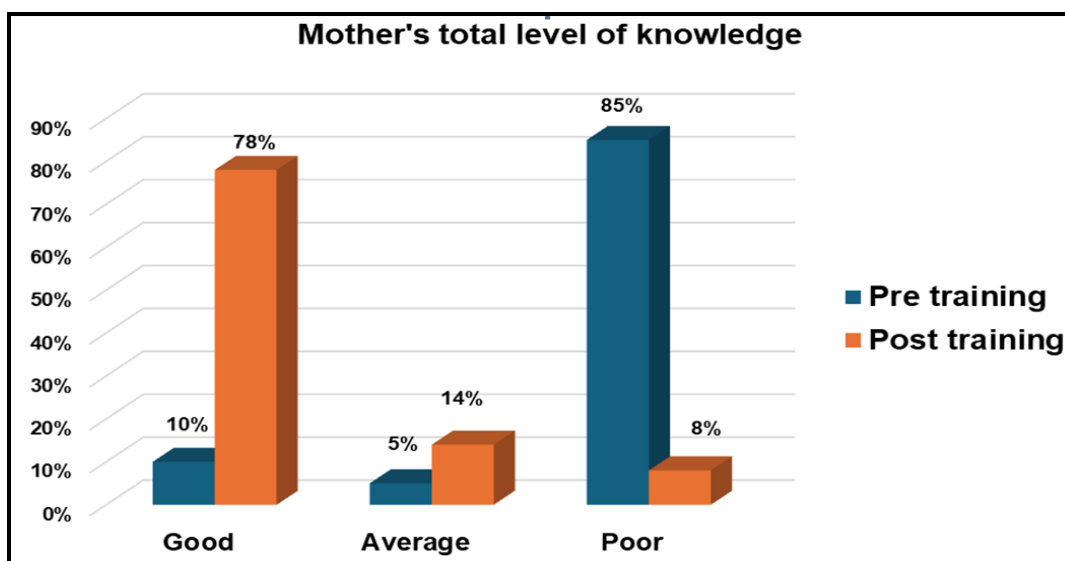


Figure (1): Total scores of knowledge for studied mothers Regarding Choking and Foreign Body Aspiration Before and After Training.

Table (3): Percentage distribution of studied mothers' practical skills regarding choking chocking management before and after training through role play (n=125).

Practical Skills	Before training				After training				z	P-Value
	Done		Not done		Done		Not done			
	No.	%	No.	%	No.	%	No.	%		
Correct infant positioning	44	35.2	81	64.8	102	81.6	23	18.4	7.44	0.000
Performing back blows (infants)	40	32	85	68	116	92.2	9	7.2	9.92	0.000
Performing chest thrusts (infants)	47	37.6	78	62.4	125	100	0	0.00	11.06	0.000
Performing Heimlich maneuver (children)	25	20	100	80	116	92.2	9	7.2	10.65	0.000
Recognizing when CPR is needed	22	17.6	103	82.4	112	89.6	13	10.4	8.99	0.000

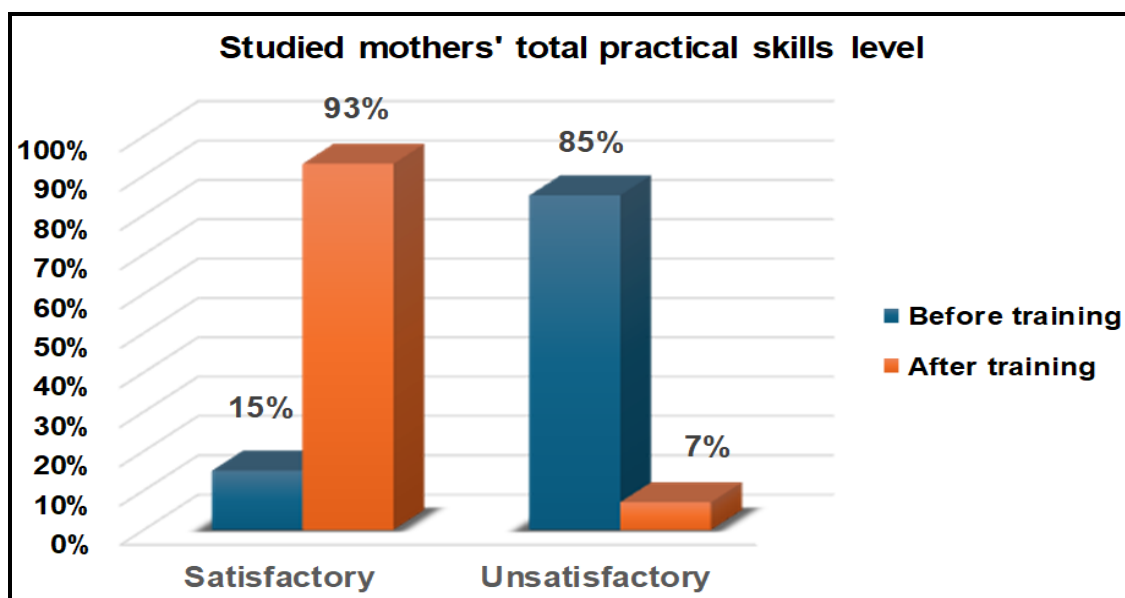
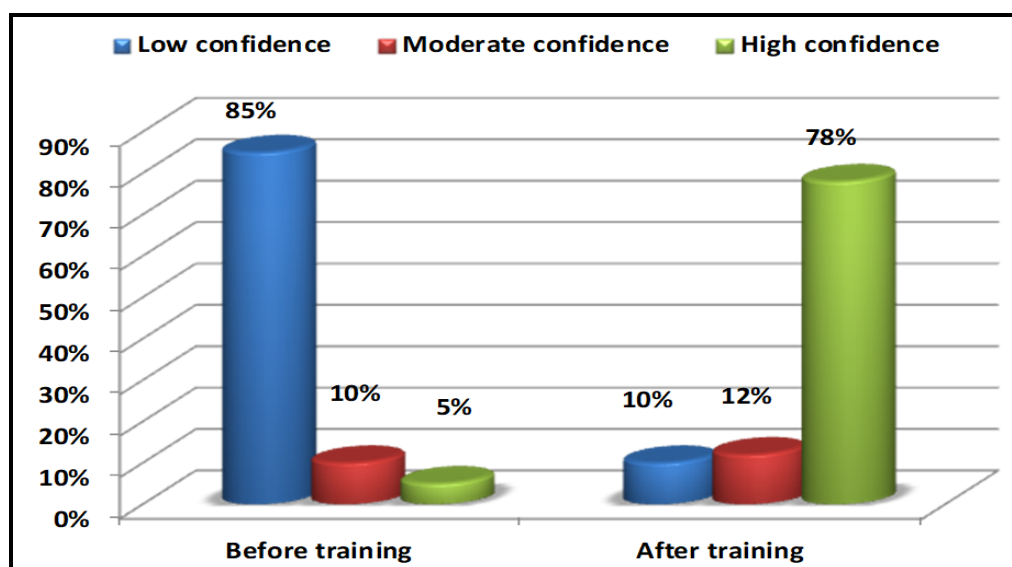


Figure (2): Distribution of studied Mothers' total practical skills level regarding choking management before and after training through role play.



**Table (4): Correlation between studied mothers' total knowledge and total practical skills scores regarding choking and foreign body aspiration management before and after training through role play (n=125).**

Items	Total Knowledge score			
	Before training		After training	
	r	p-value	r	p-value
Total practical skills scores	0.696	0.001*	0.879	0.001*



**Figure (3): Distribution of studied Mothers total self-confidence level regarding choking management before and after training through role play.**

**Table (5): Comparison of mothers' self -confidence total mean scores levels regarding management of choking in children before and after Training**

Item	Before training		After training		t	P value
	Mean	SD	Mean	SD		
Mothers' self-confidence level	14.73	3.31	42.12	3.28	65.60	0.00000

**Table (1):** Shows that the studied mothers had a mean age of  $29.76 \pm 6.13$  years, with 41.6% having university degree. Additionally, 53.6% of these mothers were housewives and 53.6% had three or more children. The children were 60.8% male with a mean age of  $1.86 \pm 1.3$  years.

**Table (2):** Reveals that, there was a statistically significant difference ( $P < 0.001$ ) in the studied mothers' knowledge regarding choking and foreign body aspiration before and after the training through role play. Since, mothers showed notable gains in their understanding of common choking hazards, its signs & symptoms, prevention strategies and appropriate first-aid responses.

**Figure (1):** Illustrates that training through role play led to an improvement in the studied mothers' knowledge regarding choking and foreign body aspiration, with

3"good" scores increasing from 10% to 78%. The "average" category rose from 5% to 14%, while "poor" knowledge decreased from 85% to 8%.

**Table (3):** Clarifies that there was a highly statistically significant difference ( $P \leq 0.001$ ) between the after-training and before-training results regarding all items of the studied mothers' practical skills related to choking management. As, mothers showed significant improvement in performing skills such as infant positioning, back blows, chest thrusts, Heimlich manoeuvre and recognizing when CPR is needed.

**Figure (2):** Demonstrates a significant improvement in the studied mothers' total practical skills level regarding choking management, with satisfactory skills increasing from 15% before training to 93% after training. Conversely, unsatisfactory skills decreased from 85% before training to 7% after training.

**Table (4):** Indicates that, there was a statistically significant positive correlation between mothers' total knowledge and total practice scores regarding choking and foreign body aspiration before and after training ( $P = 0.001$ ).

**Figure (3):** Displays a significant upgrading in the studied mothers' total self-confidence level regarding choking management, with High confidence level increasing from 5% before training to 78% after training. Contrariwise, low confidence level decreased from 85% before training to 10% after training.

**Table (5):** Shows a significant improvement in mothers' self-confidence levels in handling choking emergencies in children before and after training through role play. The mean self-confidence score increased from  $14.73 \pm 3.31$  before training to  $42.12 \pm 3.28$  after training.

## Discussion

Foreign body aspiration is very serious emergency in children, which sometimes threatens their life if not handled properly. Choking is the most fatal complication associated with foreign body aspirations incidents (Montana et al., 2020). Foreign body aspiration cases occur mostly at home in the presence of mothers. Since mothers are considers the primary caregiver of their children educating them through training on how to handle foreign body aspirations and choking is must in order to prevent its fatal complications practically child death (Al Anazi et al., 2022).

Concerning age of studied mothers (table 1), the current study revealed that, less than two fifths of studied mothers aged between 31 – 35 years old with mean  $\pm$ SD of  $29.76 \pm 6.13$  years. This finding was contradicted with Sarabi & Nosratabadi, (2022), who studied "Effectiveness of Video Education on Mothers' Knowledge of Hazard Factors and First Aid Administration in Choking Incident" and found that, the mean of age for studied mothers was  $25.42 \pm 5.00$  years. Also, the current study showed that, two fifths of studied mothers completed secondary education. This result was similar to Kumbhekar et al., (2022), who studied "Role Plays Interventional Approach towards Mothers of Toddlers Regarding Prevention of Choking and Pulmonary Aspiration" and found that, more than two fifths of studied mothers completed secondary education.

In addition, the present study results clarified that, slightly more than half of studied mothers were housewife. This result was supported by 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" and found that, the majority

of studied mothers were housewife. In relation to number of children studied mothers have, the study results revealed that, more than half of them had three or more than three children. This result was opposite to Hailu & Yifru, (2024), who studied "Assessment of Knowledge, Attitude, and Practice towards the First Aid Management of Foreign Body Aspiration and Obstruction Among Parents of Children Visited SPHMMC, Addis Ababa, Ethiopia" and found that, more than half of studied mothers had one child. According to the current study results, more than half of the children were aged one year or less with mean  $\pm$ SD of  $1.86 \pm 1.3$  years. This finding was on contrary to Sarabi & Nosratabadi, (2022), who found that children's mean age was  $4.60 \pm 2.06$  years. Moreover, the current study findings showed that, near to two thirds of the children were male, this finding was in line with Elfeshawy et al., (2022), who studied, "Effect of health education program-based on a health belief model on mothers' knowledge and practices regarding choking prevention and management for their children" and found that, more than two thirds of the children were male.

On assessing studied mothers' knowledge regarding choking and foreign body aspiration (table 2, figure 1), it was notable from current study results that, the total mean scores and level of studied mothers' knowledge were higher after training through role play compared to before training, with highly statistically significant differences. These results were same as Younis et al., (2024), in the study entitled "Effect of Educational Intervention on Mothers' Knowledge and Practices Regarding Choking Management from Foreign Body Aspiration for Their Children" who found that, the overall mean scores and the level of mothers' knowledge were higher after program than before. Similarly, Behboudi et al., (2022), in the study entitled "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" who stated that, the mean scores of studied mothers' knowledge in the intervention group, were statistically significantly higher than the control group after program implementation. These findings reflect the importance of educating mothers about choking and foreign body aspiration in children. Since education based on actual needs assessment was proven to be effective in enhancing awareness, recognition and response capabilities regarding management of chocking incidents.

In relation to studied mothers' practical skills regarding chocking (table 3, figure 2), it was noteworthy from study results that, after training through role play mothers' practical skills were



improved compared to before training. Also, the vast majority of studied mothers had a satisfactory total level of practical skills regarding choking after training through role play compared to before training, with highly statistically significant differences. These findings agreed with **Syan et al., (2022)**, in the study entitled "Effect of educational Program about first aid and prevention of choking for mothers of Preschool age children" who found that, more than two thirds of the studied mothers had satisfactory practices score after mobile education compared to before mobile education. In the same context, with **Kumari & Nitakumari, (2023)**, in the study entitled " A Quasi-Experimental Study to Assess the Effectiveness of Hands-On Skill Training Program on Knowledge and Skills on First Aid for Choking among mothers of Children in selected community areas of district Mohali, Punjab" who found that, mothers practices mean scores were higher after training program compared to before training. These results highlight the effectiveness of practical training component in enhancing hands-on emergency response skills, ensuring that mothers are better prepared to act appropriately in real life choking situations.

As regards correlation between studied mothers' total knowledge and practical skills scores regarding choking and foreign body aspiration (table, 4). The current study findings clarified statistically significant positive correlation between studied mothers' total knowledge and practical skills scores regarding choking and foreign body aspiration before and after training through role play ( $P \leq 0.001$ ). These results were alignment with **Younis et al., (2024)**, who reported that there were significant positive correlations between mothers' knowledge and their practices before and after educational intervention implementation. According to the researchers, this result is due to the effectiveness of mothers' training through role play which improved their level of knowledge leading to significant improvement in their practices. As stated by **Hailu & Yifru, (2024)**, increased mothers' knowledge related to management of foreign body aspiration and choking had significant effect on their practices.

Concerning, studied mothers' self-confidence levels in managing choking emergencies in children (table 5, figure 3), the present study demonstrated significant upgrading after training through role play compared to after training with highly statistically significant differences ( $P \leq 0.000$ ). This result could be attributed to the effective training of mothers through role play which improved their practical skills in management of foreign body aspiration and choking and subsequently elevated their level of self-confidence. As mentioned by **Behboudi et al.,**

**(2022)**, a lack of confidence in handling such scenarios can hinder decision-making, compromise child safety, and contribute to heightened stress among mothers. In the same line, **Prakash et al., (2025)**, noted that, training through role play offers a unique opportunity for learners to practice skills in a safe environment, helping to reduce anxiety and build competence, both of which are essential for fostering self-confidence.

## Conclusion

Mother's training through role play regarding choking management from foreign body aspiration in their children had significantly improved mothers' knowledge, practices and self-confidence levels. Also, there were positive significant correlations between mother's knowledge and their practices before and after training through role play.

## Recommendations

In the light of the finding of this study, the following recommendations are suggested.

- Conduct training programs for mothers using a non-traditional educational method such as role play regarding management of foreign body aspirations and choking in children.
- Health awareness regarding prevention of choking and foreign body aspirations using different media as T.V campaigns, social media platforms is very important due to its tremendous effect.
- Health promotion programs via nurses regarding prevention and management of choking and foreign body aspiration in children should be directed to parents, teachers and care givers in all paediatric care sittings and schools.

## References

- 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. *International Journal of Advanced Community Medicine*, 5(1), 35–40.
- Allam, A. (2024):** Community Health Workers' Knowledge, Attitudes, Practices, and Awareness of American Academy of Paediatrics Recommendations of Safe Sleep Environments (Doctoral dissertation, Kent State University). <https://www.proquest.com/>
- AlRabiah, A., Alraithan, T., Alraithan, A., Alsaeri, A., Alenazi, F. , Ageeli, F. & Ageeli, F. (2024):** Knowledge and Awareness of the First Aid Management of Foreign Body Aspiration in Children Among the General Population: A Cross-Sectional Study in Saudi Arabia. *Cureus*, 16(9).

- Alzahrani, K., Alzahrani, N., Alghamdi, S., Alshamrani, H., Alghamdi, H., Barnawi, M. & Alghamdi, H. (2024):** Safety practices in Al-Baha: a cross-sectional study on parental awareness of child choking events. *Cureus*, 16 (6), 2-17
- Anton-Pacheco, J. , Martin-Alelu, R., Lopez, M., Morante, R., Merino-Mateo, L., Barrero, S. & Luna-Paredes, M. (2021):** Foreign body aspiration in children: Treatment timing and related complications. *International Journal of Pediatric Otorhinolaryngology*, 144, 110690.
- Behboudi, F., Pouralizadeh, M., Yeganeh, M. & Roushan, Z. (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 paediatric nursing*, 62, e77-e83.
- Bowden, V., & Greenberg, C., (2015):** *Pediatric Nursing Procedure 4<sup>th</sup> edition* Lippincott Williams China, 114-150.
- Elfeshawy, R., El Sobky, F., Mohamed, F. & Darweesh, H. (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.
- Hailu, Y. & Yifru, S. (2024):** Assessment of Knowledge, Attitude, and Practice Towards the First Aid Management of Foreign Body Aspiration and Obstruction Among Parents of Children Visited SPHMMC, Addis Ababa, Ethiopia. *Med Rxiv*, 2024-10.
- Korycka, K., Mormul, A., Korab, M. & Smalira, J. (2024):** Choking in children: causes, prevention and intervention strategies. *Wiadomości Lekarskie Medical Advances*, 77(9), 1777-1782.
- Kumari, H. & Nitakumari, K. (2023):** A quasi-experimental study to assess the effectiveness of hands-on skill training program on knowledge and skills on first aid for choking among mothers of children in selected community areas of district Mohali, Punjab. *International Journal of Nursing Education and Research*, 11(3), 259-263.
- Kumbhekar, S., Madavi, S., Mahajan, D., Mahalle, D. & Kolhekar, S. (2022):** Role Plays Interventional Approach towards Mothers of Toddlers Regarding Prevention of Choking and Pulmonary Aspiration. *Journal of pharmaceutical negative results*, 13.
- Montana, A., Salerno, M., Feola, A., Asmundo, A., Di Nunno, N., Casella, F. & Di Mizio, G. (2020):** Risk management and recommendations for the prevention of fatal foreign body aspiration: four cases aged 1.5 to 3 years and mini review of the literature. *International Journal of Environmental Research and Public Health*, 17(13), 4700.
- Pondete, M. , Barlianto, W. & Suryanto, S. (2022):** Education for parents regarding choking prevention and handling on children: a scoping review. *IJPHS*, 11, 672-9
- Prakash, P., Singh, K., Mathew, S. & Parashar, D. (2025):** Impact Of Simulation-Based Training on Confidence of Nursing Students in Handling Pediatric Emergencies. *African Journal of Biomedical Research*, 28(1S), 1180-1184.
- Sarabi, N. & 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, E., Zaki, E., Abd-Alfatah, H. & Alsayed A. (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.
- Younis, M., Bahgat, R. & Magor, N. (2024):** Effect of Educational Intervention on Mothers' Knowledge and Practices Regarding Choking Management from Foreign Body Aspiration for Their Children. *Tanta Scientific Nursing Journal*, 32(1), 25-43.
- Zedain, S., Madian, A. & Radwan, I. (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.
- Zheng, P., Zhang, N., Chen, Z. & Jiang, Z. (2025):.** Global, regional, and national assessment of foreign body aspiration (1990–2021): novel insights into incidence, mortality, and disability-adjusted life years. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*, 33, 40.

This is an open access article under  
**Creative Commons by Attribution Non-Commercial (CC BY-NC 3.0)**  
 ( <https://creativecommons.org/licenses/by-nc/3.0/> )

