

# Effectiveness of the Nursing Health Program for Mothers with Children Undergoing Bronchoscopy

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## Abstract

**Background:** Foreign Body Aspiration (FBA) is considered a serious and potentially-lethal threat to the health of children aged from 6 months to 4 years. The golden standard for diagnosing and managing this condition is rigid open tube bronchoscopy. Mothers and caregivers should be informed and educated about health guidelines in order to reduce morbidity and mortality caused by the foreign body aspiration.

**Aims:** This paper aims at evaluating the effectiveness of a nursing health program for mothers with children undergoing bronchoscopy through assessing their knowledge, practice and attitude to develop and implement the nursing health program to meet mothers' needs.

**Method:** Quasi experimental design was conducted during the period of three months in 2010 to evaluate the effectiveness of a nursing health program on a non-random convenience sample of 80 mothers selected from a governmental hospital located in Amman city, Jordan.

**Tools:** The researchers developed an interviewing questionnaire which was used as a pre- and post test to assess knowledge, practice and attitudes of the care provided by mothers during the incident of the foreign body aspiration and after the bronchoscopy procedure. Then, the researchers developed and implemented a nursing health program followed by a post test to track changes for the purpose of evaluating the effectiveness of the health program.

**Results:** The most common presenting symptoms were a combination of cough (93.75%) and difficulty of breathing (81.25%). The most frequently-aspirated foreign bodies were organic material such as seeds and nuts followed by non-organic material i.e., coins accounting for (26.2%, 16.5%, & 20%), respectively. There were statistical significant improvements ( $P < 0.01$ ) in mothers' knowledge, practice, and attitude on the post-test scores.

**Conclusion:** There is an urgent need to educate mothers with the safety precautions and choking prevention measures to minimize the risk of FBA.

**Keywords:** Foreign Body Aspiration, Bronchoscopy, Nursing Health Program.

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## Introduction

The foreign body aspiration is considered a common and serious problem among children, since it accounts for 7% of the lethal accidents

affecting children aged from 1 to 3 years.<sup>1, 2, 3</sup> Morbidity and mortality increase presumably in the younger groups because young children have narrow airways and immature protective mechanisms.

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In one series, 90.9% of deaths were of children aged from 1 to 3 years<sup>1</sup>, while another study reported that 78% of those who died after foreign body aspiration were whose age is between 2 months and 4 years of age.<sup>4</sup>

The golden standard for diagnosis and treatment of foreign body aspiration is bronchoscopy, either rigid or flexible, an invasive procedure that carries its own risk of morbidity.<sup>5, 6</sup> Rigid bronchoscopy remains definitive diagnostic and subsequently therapeutic tool in children for foreign body aspiration and should be performed in all suspected cases,<sup>1</sup> whereas the fiberoptic bronchoscopy through a laryngeal mask airway has been suggested as an ideal solution for adults in order to facilitate the procedure when maintaining optimal ventilation.<sup>7</sup>

The spectrum of the airway foreign body varies from one country to another, depending on the population's diet and custom. Vegetable matter and dry fruits have been reported to be the most commonly-aspirated food in the pediatric airway.<sup>8</sup> In most of the developed Western societies, peanuts are regarded the most commonly-aspirated FB<sup>9</sup> in a similar descriptive study which was conducted by Mahafza and Khader on 524 patients having an aspirated foreign body evaluated at a major hospital in Jordan showed that the most frequently-aspirated objects were seeds (35.4%), particularly watermelon seeds, nuts (26.8%), and vegetables (25.3%). The researchers' experience with aspirated tracheobronchial foreign bodies in Jordan was not substantially different from that reported in other countries. The only difference was that the most frequently-aspirated foreign body in their study was seeds.<sup>10</sup>

A study on foreign body aspiration in children was also conducted by Merei et al. in the north of Jordan on 127 patients who underwent rigid bronchoscopy to examine the current trends in the pediatric foreign body aspiration and to develop safety guidelines helping prevent this hazard. The study showed that nuts such as sunflower seeds, water melon, and peanuts were found in 45% of children whose age is less than

one, in 61% of children whose age is less than two years, and in 65% of children whose age is less than three years. Where organic materials such as pins, plastic and metal toys' pieces were present in 71% of children whose age is more than three years. The researchers emphasized a continuous parental education as an essential part of public health initiatives in the community.<sup>11</sup>

Recent research indicated that more attention needs to be focused on mothers by teaching them the proper ways of infant's weaning, safe eating practices, the suitability of different types of foods and the appropriate size and texture to each stage during the development of children.<sup>11,12</sup> For example, a field study conducted by Goktas et al. supports the fact that a large fraction of the injuries that occur under the supervision of the adults suggests that the number and severity of the injuries could be reduced by educating both parents and children. The researchers' experience confirms, therefore, that further research into the behavioral aspects leading to FB injuries is needed.<sup>13</sup> Therefore, it might be crucial to plan for a program that might help in improving mothers' knowledge, practice and attitude in order to overcome any negative response. Thus, we sought in the current study for evaluating the effectiveness of a nursing health program for mothers caring for children experiencing the foreign body aspiration and undergoing bronchoscopy procedure.

### **Significance of the Study**

Lack of mothers' information for the foreign body aspiration among children might have a negative impact on the way the family handles the affected children. This lack of information might also have an effect on the way they deal with complications resulted from the foreign body aspiration. Therefore, it is too important to plan for a program in order to improve mother's knowledge, practice and attitude to overcome the negative response concerning the foreign body aspiration. Thus, the nurse is one of the health team members who is able to provide the mothers with the needed information through a structured program.

## **Aim of the Study**

This study aims at evaluating the effectiveness of a nursing health program for mothers looking after their children undergoing bronchoscopy through assessing the knowledge, practice and attitude of mothers in order to develop and implement a nursing health program to meet mothers' needs.

## **Research Questions**

The following research questions guided the present study:

1. What is the level of knowledge and practice of mothers caring for aspirated children pre implementing the nursing health program?
2. What is the effect of a nursing health program on the care provided by the mothers caring for aspirated children undergoing bronchoscopy?
3. What is the relationship between the mothers' knowledge and practice and their level of education concerning caring for aspirated children undergoing bronchoscopy?

## **Subjects and Methods**

**Research Design:** Quasi experimental design was conducted for this study.

**Setting:** The study was conducted in the pediatric surgical unit at Al Bashir Hospital in Amman city in Jordan.

**Sample:** A convenient sample consisted of 80 mothers and their children who had foreign body aspiration and were admitted to a pediatric surgical unit in the above setting; children's age ranged from less than 1 to 5 years. The exclusion criteria were: children older than 5 years, children with chronic disorders, mental retardation, and complicated by foreign body aspiration.

## **Tools of Data Collection**

Two different tools were used for data collection:

### **1. An Interviewing Questionnaire.**

The questionnaire developed by the researchers was written in Arabic to assess the mothers' knowledge, practice, and attitudes as pre-and post-test concerning care which is provided for children with foreign body aspiration and which is provided before and after bronchoscopy procedure. It is comprised of the following parts:

- **Socio- demographic:** Data for mothers and their children, sex and age of children, mother's age, education, and work status.
- **Mothers' Knowledge:** Definition, causes, symptoms, complications, and treatment of the foreign body aspiration.
- **Mothers' Practice:** Through asking questions regarding suitable diet, position during feeding, and safety environment. Mothers who take care of their children before and after bronchoscopy procedure was also measured. Including providing information for physical and psychological preparation for the care provided after bronchoscopy, physical observation, comfortable measures, precautions, and home care.

### **2. Lickert's Attitude Scale**

Lickert Attitude scale was constructed in a way to show attitudes of the mothers towards caring for aspirated children undergoing bronchoscopy. It consists of 10 items to assess their attitude; each item was rated on 3 points: 3, 2, 1 which mean always, sometimes, and never, respectively.

**Scoring System:** The questionnaire consisted of 30 multiple-choice items to assess the knowledge, practice and equal values were provided. Score +1 for a correct answer and zero for wrong answer were considered. The total score of the questionnaires was calculated and sorted into three levels: less than 50% which was graded as poor, 50% to less than 75% score which was graded as average, and more than 75% score which was graded as good. 10 items were also on 3 point lickert's attitude scale (always, sometimes, and never); each of which has three alternatives from 3-1. Mothers' attitude was taken

into consideration. The total score of attitude was calculated and categorized as follows: less than 50% was graded as poor, 50% to less than 75% score was graded as average, and more than 75% score was graded as good.

### **Validity and Reliability**

The questionnaire was developed by the researchers and reviewed in terms of content and face validity by the specialized people in the field of pediatric nursing in public and private nursing colleges. The reliability of the questionnaire was (0.84) by using Cronbakh Alpha test.

### **Operational Design**

#### **Pilot Study**

The instrument was pilot -tested with 10 mothers from the pediatric surgical units of the Hospitals. It was conducted to test the clarity and simplicity of the questions and to check the most common topics related to the study. These numbers of pilot study were included in the total number of the study sample. As a result of the pilot study, time needed to complete the questionnaire was estimated, an adjustment was made to some questions to give more clarity and appearance, and formatting change was made.

### **Administrative and Ethical Considerations**

Official permission was obtained from the Dean of the Faculty of Nursing and the Dean of the Scientific Research at Al Isra University. Then the procedure for this study was reviewed and approved by the committee for research ethics in Al-Basheer Hospital and The Ministry of Health. Before conducting the study, personal communication was done with nurses and physicians to explain the purpose of the study and to reach their best possible cooperation.

**Protection of Human Rights:** The researchers emphasized to children and their mothers that the study was voluntary and anonymous. Mothers had the full right to refuse participating in the study at any time.

**Field Work:** The researchers described the study to each subject approached to participate in the study. Subjects who agreed to participate completed a developed interviewing questionnaire with the presence of the researchers. Pre-test in relation to program taught was administered for four days per week (Sunday, Monday, Tuesday, and Wednesday) during the period of three months in 2010. Then, the health education program was introduced to the study sample by the researchers. The health education program emphasized theory, practice and provided time for discussion in order to identify differences, similarities, area of improvement as well as to detect any defects. In the end, the researchers made a post-test to evaluate the effectiveness of the health training program by the study sample.

### **Health Program Construction**

**Assessment Phase:** The health program utilized in the current study for teaching mothers was designed by the researcher based on results obtained from pre test. It was reviewed by specialized people in the pediatric health nursing field and modified according to their comments and the related literature. Cultural and socio demographic aspects of the study sample were designed to cover the mothers' knowledge, practices, and attitudes.

### **Purpose of the Health Education Program:**

The general purpose of the program was geared to improve mothers' knowledge, practices, and attitudes of daily living activities regarding giving care for their children with the foreign body aspiration and undergoing bronchoscopy procedure.

### **Content of the Program:**

This program consists of the following topics related to mothers' knowledge part 1: definition, causes, symptoms, complications and treatment of foreign body aspiration. Part 2 regarding mothers' practice by asking questions regarding suitable diet, position during feeding and safety environment. Part 3 concerns mothers who care for their children before and after bronchoscopy procedure which

consists of physical and psychological preparation and providing information for the care after bronchoscopy, physical observation, comfortable measures, precautions, and home care.

**Program Development:** Once the pre-test was conducted and analyzed, needs of the mothers caring for their children were identified. The health educational program was designed by the researchers based on the results obtained from pre-test analysis. The program was revised and modified according to the related literature, and suggestions from experts. The program instructions were available in several forms, namely: booklet, handouts, and pamphlets. They were provided to mothers during teaching sessions to provide them with educational references after the completion of the program.

**Program Implementation:** Program implementation was based on conducting session plans which begin with assessment of the groups. Researchers stimulate the group to think about issues and problems and to provide opportunities for sharing ideas and receiving peer support. Information and skills of the groups by the end of the teaching experience were revised. Time was opened for subjects to ask questions and receive the corresponding answers as well as to express their feed-back toward the teaching sessions. Different educational methods with groups were used such as: modified lectures, shared discussions, brain storming, and variety of instructional methods, i.e., pictures, posters, handouts and guiding booklets.

**Program Evaluation:** The program evaluation was periodically conducted during implementation and after completing the post-test was administered to track changes to determine the effectiveness of the taught program.

**Limitations of the Study**

Lack of cooperation from some mothers.

**Data Analysis:** The objective of data analysis

was to evaluate the effectiveness of a nursing health program for mothers looking after their children who are experiencing the foreign body aspiration and undergoing bronchoscopy procedure. Using SPSS program, T-test and one-way ANOVA were fit to describe the study sample and to test if there were any differences in pre- and post- tests among subjects according to study variables.

**Results**

The results of this study are presented in four parts:

**Part 1: Socio-demographic characteristics of the mothers and their children**

Table (1) shows that the majority of mothers' age is less than 20 ≤ 24 years old of age, which constitutes (54%) with the mean age 24.8 years for all mothers, while (46%) of them have secondary education, and (73%) are working mothers. In addition, this table states that more than half of children gender is male (62 %) and the age of more than half of the children's age ranges from one to less than three years (55%).

**Table (1): Socio-demographic characteristics of mothers and their children (N0=80).**

<i>Mothers</i>	<i>No</i>	<i>%</i>
<b>Age</b>		
<i>Less than 20:24</i>	43	54
<i>25:29</i>	22	28
<i>30:39</i>	11	14
<i>40 or greater than</i>	4	4
<b>Education</b>		
<i>Primary</i>	16	20
<i>Secondary</i>	37	46
<i>High</i>	27	34
<b>Occupation</b>		
<i>Work</i>	58	73
<i>Not work</i>	22	27
<b>Children's Gender</b>		
<i>Male</i>	50	62
<i>Female</i>	30	38
<b>Age</b>		
<i>Less than one</i>	30	38
<i>One to less than three</i>	44	55
<i>Three to five</i>	6	7

Table (2) illustrates that organic material such as seeds and nuts followed by non-organic material i.e., coins are the most commonly aspirated foreign body constituting (26.2%, 16.5%, & 20%), respectively. It also shows that the dominant signs and symptoms of foreign body aspiration are a combination of cough, difficulty of breathing and choking.

**Table (2): Types, signs and symptoms of aspirated foreign bodies.**

<b>Organic</b>	<b>No</b>	<b>%</b>
Fruit Pieces	13	12.5
Seeds	21	26.2
Nuts	10	16.2
Popcorn	6	7.5
<b>Non Organic</b>		
Coins	16	20
Plastic materials	7	8.8
Beads	3	3.8
Pins	4	5
<b>S&amp;S</b>		
Cough	75	93.75
Difficulty of breathing	65	81.25
Cyanosis	40	50
Choking	60	75

**Part II: Mothers' knowledge and practice regarding care provided for children who aspirated foreign body**

Table (3) shows that the level of mothers' knowledge (59%) and practice (65%) are relatively poor before implementing the nursing health program (this Table is an answer to question one).

**Table (3): Level of Mothers' Knowledge & Practice pre the nursing health program. (No. = 80)**

<b>Parameters</b>	<b>Knowledge %</b>	<b>Practice %</b>
Poor	59	65
Average	28	23
Good	13	17

**Poor: less than 50%**

**Average: from 50% to less than 75%**

**Good: more than 75%**

Table (4) illustrates that there is a statistically significant difference between pre- and post-implementation of the nursing health programs

on mothers' knowledge regarding foreign body aspiration.

Concerning mothers' knowledge, specifically the definition of foreign body aspiration, its causes, symptoms and complications, the present study showed a better improvement of mothers' knowledge on post test scores after the administration of the nursing health program. It also indicates that there are significant differences between pre- and post-nursing health programs on mothers' practice regarding suitable diet, position during feeding and safety environment for their children. The Table displays a better improvement in post test scores in mothers' practice.

Table (5) shows that a statistical significant difference regarding mothers' practice before and after bronchoscopy is improved right after implementing the nursing health program. It also illustrates that a statistical significant difference exists on the post test scores concerning the items of practice and home care following the implementation of the nursing health program. (Tables (4) and (5) are the answer to question No. two).

**Part III: Attitude of mothers toward care of their aspirated children undergoing bronchoscopy pre and post implementing the nursing health program.**

Table (6) illustrates mothers' attitude toward care of their aspirated children undergoing bronchoscopy. The table shows that mothers' attitude in the pre test is poor, average and good forming (56.2%, 36.3% and 7.5%), respectively, while a significant change exists after the intervention to become (60%, 18.7% and 21.3%) for good, average, and poor, respectively.

Table (7) shows the positive correlation among mothers' knowledge, practice and their education. Meanwhile, the table reflects a statistical significant relation between mothers' knowledge and their education. (This table is an answer to question No. 3).

Part II: Mothers' knowledge and practice regarding the foreign body aspiration.

**Table (4): Mean scores of mothers' knowledge and practice regarding foreign body aspiration pre/post nursing health program. (No. = 80)**

Knowledge	Mothers H.E. (N=80)			
	Mean Score ± SD		T test	P Value
	Pre	Post		
Definition	.575 ± .494	.875 ± .332	4.607	.000***
Causes	.587 ± .495	.862 ± .364	5.474	.000***
Symptoms	.462 ± .501	1.762 ± .428	16.592	.000***
The complications of foreign body aspiration	.737 ± .470	1.587 ± .495	11.908	.000***
Treatment	.587 ± .495	1.425 ± .545	10.412	.000***
Total Knowledge	3.362 ± 1.525	6.512 ± 1.190	15.895	.000***
Practice	Pre	Post	T test	P Value
Suitable Diet	.637 ± .509	1.437 ± .523	10.781	0.000***
Position during feeding	.600 ± .492	.950 ± .270	6.522	0.000***
Safety environment	.637 ± .533	1.650 ± .553	12.277	0.000***
Total Practice	2.062 ± 1.266	4.037 ± .906	13.466	0.000***

Pre & Post T-Test: T

\*\*\*: High Significant (P<0.01)

**Table (5): Mean score of mothers' practice regarding children's care before and after bronchoscopy pre/post nursing health program. (No. = 80)**

Before bronchoscopy	Pre	Mothers H.E. (N=80)		T test	P value
		Mean ± SD	Post		
Physical preparation	1.111 ± 1.021	2.275 ± .789	.906	.000***	
Psychological preparation	0.835 ± .582	2.766 ± .498	.694	.000***	
Providing information	0.703 ± .964	2.001 ± 1.109	.678	.000***	
After bronchoscopy					
Physical observation	1.509 ± .4876	2.3 ± .2636	-3.66	0.000***	
Comfortable measures	0.643 ± .8234	2.121 ± .6726	16.81	0.000***	
Precautions	0.433 ± .3526	1.87 ± .4876	-7.96	0.000***	
Home care	0.511 ± .8806	1.945 ± .8069	18.63	0.000***	

Pre & Post T-Test: T

\*\*\*: High Significant (P<0.01)

Part III: the Statistical relationship among mothers' knowledge, practices and their education.

**Table (6): Attitude of mothers toward care provided for their aspirated children undergoing bronchoscopy pre and post nursing health program (No. = 80)**

Items	Pre		Post	
	No.	%	No.	%
Poor	45	56.2	17	21.3
Average	29	36.3	15	18.7
Good	6	7.5	48	60

Poor: less than 50%

Average: from 50% to less than 75%

Good: more than 75%

**Table (7): the Statistical relationship among mothers' knowledge, practices and their education.**

<u>Mother Education</u>	<u>Knowledge</u>		<u>Practice</u>	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
<i>Primary</i>	.375 ±.5000	1.5000 ±.5164	.687 ±.8732	3.687 ±1.078
<i>Secondary</i>	.789 ±.4131	1.5263 ±.5060	1.526 ±1.0587	4.131 ±.8437
<i>High</i>	1.000 ±.0000	1.555 ±.5773	1.214 ±.875	4.178 ±.904
<i>ANOVA</i>	15.630	.057	.036	.710
<i>P value</i>	.944	.000**	.017*	.013*

## Discussion

Foreign body aspiration is a common condition in young children and might lead to significant morbidity and mortality. Bronchoscopic examination is diagnostic once the children have acute respiratory symptoms. Moreover, the suggestive history of foreign body aspiration followed by cough usually prompts bronchoscopic evaluation and endoscopic removal as the main treatment option.<sup>11</sup>

### *Part I: Socio-demographic characteristics of mothers and their children*

As for mothers' socio-demographic characteristics, the finding of the present study reveals (Table 1) that more than half of the mothers' age ranges from less than 20 to 24 years with a mean age of 24.8 years for all mothers.

According to the study which is done by Eren et al., it was found that parental ignorance of the dangers of foreign body aspiration may happen in young mothers and it needs more focus to teach them on such dangers.<sup>14</sup> With regards to education and occupation, it was found that around fifty percent of the mothers have secondary education, and two thirds of them are working mothers. This finding was supported by Abdelalim, who stated that when mothers' education decreases, health risk increases.<sup>15</sup>

Regarding children's age, foreign body aspirations are present in more than fifty percent of children from one to less than three years. This is in line with Swanson et al., who have reported that most of their patients are below four years of age.<sup>16</sup> Similarly, Eren et al. reported an increased incidences of foreign body aspiration in children aged 1-3 years.<sup>14</sup>

These increased incidences have been attributed to several factors among younger children (e.g. they tend to put small objects into their mouths; often cry, shout, run about and play with objects in their mouths; and do not yet have the molars needed for proper chewing). In addition to Mahyar and Taralan, the foreign body aspiration was most frequently observed in boys more than girls. This finding probably reflects the more impulsive nature of boys and their adventurous games.<sup>17</sup>

### *Part II: Mothers' knowledge and practice regarding care provided for children who aspirated foreign body*

Food is the commonest aspirated object. In some Middle East countries, sunflower seeds were the most commonly aspirated objects.<sup>18</sup> Nuts, other vegetables and pieces of food accounted for more than 70% of the foreign bodies observed. Differences in aspirated foreign bodies between Western countries and Middle East countries may reflect different cultural habits.<sup>19</sup>

Findings of the present study reflected that the organic aspirations were mostly seeds followed by nuts, and non organic coins were found in some cases. This result could be related to the lack of adequate maternal supervision of both infants and toddlers who should be blamed. As reported by Cassol and Periera, most foreign bodies aspirated in their study were of herbal origins and the most common types were roast seed, almond and walnut.<sup>20</sup> Karakoc et al. also reported that (86%) of foreign bodies were herbal organ objects. Seeds, including watermelon and sunflower seeds, are the most commonly aspirated foreign bodies in the Middle East.<sup>21</sup>

According to Rimell et al. the most frequently inhaled foreign bodies are nuts and vegetables, accounting for approximately 80% of aspirated foreign bodies, while pebbles, plastic, and wooden or metal objects are aspirated much less often.<sup>22</sup>

In this study, it can be seen in Table (2) that the most common symptoms of FBA (Foreign Body Aspiration) were a combination of coughing, difficulty of breathing and choking. According to Wong et al., cough, choking and wheezing are the commonest presenting symptoms of FBA in almost 95% of all their patients.<sup>23</sup>

Findings of this study reflected that there was a statistical improvement concerning mothers' knowledge in pre and post test on foreign body aspiration definition, causes, symptoms and complications (Table 3). These findings were in correspondence with Barreto and Habnger who recommended that the increase of parents' level of knowledge and preventive measures is an essential step.<sup>24</sup> Busso et al. also added that a public awareness campaign on FBA is warranted.<sup>25</sup> Parents should be advised to avoid giving children peanuts before their molar teeth develop.<sup>23</sup> Also, Mourtaga et al. advised that, it is strongly needed to prevent foreign body inhalation among infants and children, by implementing community-based programs for parents' awareness.<sup>26</sup>

Concerning mothers' practice about suitable diet, position during feeding and safety environment, it was noticed in (Table 4) that they were lacking in the essential practice in this area. After the application of the nursing health program, there was a statistical significant improvement on post test scores compared to pre test results. These findings reflect a trend toward the early introduction of solid food during weaning period. Mothers were enthusiastic about sharing a young infant the same type of food with older siblings and other family members as early as possible. Parents should be cautious when offering peanuts and watermelon seeds to toddlers. Chiu et al. and Merei et al. mentioned that more attention needs to be paid to young mothers; teaching them the

proper ways of weaning, the suitability of different types of foods and appropriate food size and texture to each stage during the development of the infant.<sup>27-11</sup>

The present study revealed that mothers' practice regarding children's care before bronchoscopy was improved in comparing pre and post program results. These results are supported by Elbahnasawy who recommended that the necessity of preparation for specific procedures, such as bronchoscopy which should always be provided. Parents and older children need to know exactly what is going to happen.<sup>28</sup>

Regarding mothers' care after bronchoscopy, physical observation, comfortable measures, precautions and home care, an improvement was observed after implementing the nursing health program. These results are in agreement with Elbahnasawy who reported that parents should be invited to be part of the recovery experience. Home care is a vital task parents will face after their child's discharge great duties in relation to fluids intake and good observation plus all other activities of daily living.<sup>28</sup>

***Part III: Attitude of mothers toward care of their aspirated children undergoing bronchoscopy pre and post implementing the nursing health program.***

The attitude of mothers toward causes and protection of their children from foreign body aspiration was assessed in the present study. This revealed that two fifths of the mothers had positive attitudes as they were able to describe their beliefs about the actual cause of foreign body aspiration. They explained that increased children mobility, using their mouth to explore everything around them, being unaware and cannot understand the dangers. In this respect, Kindleherger emphasized that attitude and beliefs may be the greatest factors involved in unintentional aspiration. Mothers' individual attitude toward safety precautions greatly influences the likelihood of aspiration. Many mothers believe that, safety precautions are a waste of time as no control can be done over the

situation (what will happen, will happen), or you may have a reach less attitude (you like task risks).<sup>29</sup>

### **Conclusion**

Based on the results of the present study and research questions, the researchers conclude that the intervention program was effective in helping mothers to manage the foreign body aspirated by their children, who are undergoing bronchoscopy. The program also improves their knowledge, practice and attitude to prevent the recurrence of aspiration.

### **Recommendations**

In light of the findings of the current study, the following recommendations were suggested:

- It is essential to provide information for mothers about all expected types of accidents that might occur for their own children.
- Education programs should be developed to help pediatric nurses to emphasize on care taking and safety measures for mothers. The high activity level of infants, toddlers, preschoolers and elementary school aged children, increases the likelihood of accidents in many settings such as homes, schools, and day care centers. Steps should be taken by all caretakers to prevent the occurrence of such incidents.
- Continuous training of mothers having children from less than one year to less than five years in such a way to secure their role toward accident prevention is highly recommended.

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## فاعلية برنامج صحي ترميضي لأمهات الأطفال الذين أجريت لهم عملية منظار رئوي لإزالة الأجسام الغريبة

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### الملخص

تشكل مشكلة استنشاق الاجسام الغريبة تهديداً خطيراً لصحة الاطفال ويمكن ان تكون مميتة للاطفال الذين تتراوح اعمارهم بين 6 اشهر و4 سنوات. ويعتبر اجراء عملية المنظار الرئوي المعيار الذهبي لتشخيص ومعالجة هذه المشكلة. كما ينبغي تثقيف الامهات ومقدمي الرعاية الصحية بشأن المبادئ الصحية للحد من معدلات الاعتلال والوفيات الناجمة عن مشكلة استنشاق الاجسام الغريبة.

الاهداف: تقييم فعالية برنامج صحي ترميضي لامهات الاطفال الذين اجريت لهم عملية منظار رئوي لازالة الاجسام الغريبة من خلال تقييم معرفة وممارسات واتجاهات الامهات لتطوير وتنفيذ برنامج صحي وفقاً لاحتياجاتهن.

الطريقة: أجريت هذه الدراسة شبه التجريبية خلال ثلاثة أشهر في عام 2010 على عينة من الامهات بلغ عددهن (80) أمماً، وقد تم اختيارهن من أحد المستشفيات الحكومية في مدينة عمان. وتم جمع البيانات باستخدام استبانة تم اعدادها من قبل الباحثين طبقت كاختبار قبلي وبعدي. كما قدم برنامج الرعاية الصحية الترميضي للامهات خلال الفترة الزمنية انفة الذكر على مدار 4 أيام اسبوعياً.

النتائج: تشير نتائج الدراسة الى ان مجموعات الاعراض الاكثر شيوعاً لدى الاطفال نتيجة استنشاقهم أجساماً غريبة هي السعال (93.75%) وصعوبة التنفس (81.25%). وكانت المواد الاكثر شيوعاً التي استنشقتها الأطفال هي المواد العضوية مثل البذور والمكسرات تليها المواد غير العضوية مثل القطع المعدنية ومثلت (26.2%، 16.5%، 20%) على التوالي. وكانت هناك تحسينات ذات دلالة إحصائية في المعرفة والممارسات والاتجاهات لدى الامهات على الاختبار البعدي.

الخلاصة: هناك حاجة ملحة لتثقيف الامهات حول رعاية ومخاطر استنشاق الاجسام الغريبة، وما زال الامر يحتاج الى توعية وارشاد حول احتياطات السلامة والوقاية من حالات الاختناق وهو أمر له ما يبرره.

الكلمات الدالة: استنشاق، اجسام غريبة، منظار رئوي، برنامج صحي ترميضي.