Prevention And First Aid of Mechanical Airway Obstruction Among Children: Supportive Stratiges For Mothers

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Abstract

Children considered as one third of today's population and the whole future for us. For raising society being healthy, it is vital of having children being healthy. Mechanical airway obstruction is a communal and fatal fortune in group of pediatric age. It needs prompt treatment and recognition for avoiding outcomes as fatal. Despite aspiration of foreign body (FBA) could be event as threatening of life, it can be still preventable. The mostly significant risk factor for FBA is caregivers knowledge lacking. A pre/post quasi design of experimental was implemented in the outgoing study. Three hundred mothers as purposive were included in the current study. The study aim was to assess the supportive strategies influence for mothers in respect to prevention and first aid of mechanical airway obstruction among children. The work was performed in the outpatient pediatric department of El Sayed Galal University hospital. Tool I: data sheet as socio-demographic for children and their mothers, Tool II and Tool III: sheet of questionnaire in respect to knowledge of mothers besides reported practices of mothers. Results showed that the mean age of the studied mothers was (34.13± 8. 97), and more than three quarters of them (%76.7) were didn't receive previous training program. Differences of significant were detected between post and pre supportive strategy in knowledge of mothers and reporting practices in prevention and first aid of chocking that wasn't affected by their socio-demographic characteristics (P value >0. 05).

Keywords: *first aid, mechanical airway obstruction, children, mothers, Supportive Strategy.*

Introduction

"The children of today are the adults of tomorrow. Every child has right to grow up in a healthy environment. They deserve to inherit a safer, fairer and healthier world. There is no task more important than safeguarding their environment" [18]. Choking is the introduction of a foreign object into a child's airway that come to be blocked and minimizes or obstructs completely the flow of air to lungs. Obstructions mostly are clean through child coughing but in certain circumstances airflow is blocked completely, it might be no sounds for alerting others and a person might die in few minutes. Choking episode signs might including the person can't speak (which ordinarily can), they are not able breathe, sounds wheezy breathing, silent attempts at coughing, decreasing consciousness levels, silent or quiet cough, cyanosis [10,4]**.** Mechanical airway obstruction is a communal and fatal fortune in group of pediatric age. It needs prompt treatment and recognition for avoiding outcomes as fatal .Foreign body (FB) aspiration/inhalation is still death cause, usually in early childhood [4] **.** Choking is respiration interruption via internal airway obstruction, typically via small toys or food in children being young. Such inhibits O_2 from passsing to brain and lungs that causes damage to brain or death within 4 minutes. Children below 3 years age are particularly choking-vulnerable due to small airways. Parents must remember maintaining balance of constant between child over-protecting and freedom giving to him in his learning process environment hazards [12,8]**.** Despite aspiration of foreign body (FBA) could be event as threatening of life, it can be still preventable. It might minimize via risk factors identifying and applying strategies for managing accordingly the factors of risk. The mostly significant risk factor for FBA is caregivers knowledge lacking. Strategies for choking prevention include education the prevention and the first aid for chocking. It is clear that

nurse being pediatric has significant function in respect to education which delivered to parents for reduction and prevention chocking among children [1]

Study aim

The study aims are:

- To identify the mothers' knowledge level and reported practices regarding prevention and first aid of mechanical airway obstruction among children.

- To assess the supportive strategies influence for mothers in respect to first aid and mechanical airway obstruction prevention among children.

Design of research:

Time series quasi research experimental design (pretest-posttest) was used for the study.

Sampling and sampling size

At the current work, 300 mothers as appropriate sample along their children of age below 5 years was enrolled to examine the supportive strategies influence for avoidance and first aid of mechanical airway obstruction among children were selected from the pediatric outpatient department of El Sayed Galal University hospital. Randomized sample was selected by using a SPSS, for sample size determining; analysis of power was performed utilizing 0.05 as significance level, 0.95 as the power and affect 0.25 sizes. The needed size of sample gotten was 300 mothers along children below 5 years old.

Considerations of ethics

For ethical considerations before collection of data, approval was gained from the research scientific hospitals board, outpatient departments head and nursing faculty and University of Helwan. Informed verbal consent was given by mother before study participation.

Setting:

This work was performed in the department of pediatric outpatient hospital of El Sayed Galal University.

Instruments:

Three information collection tools:

Tool I: Characteristics as Socio-demographic for mothers including; education level, age, state of working …etc. and. Socio-demographic characteristics of children include: gender, and age…etc.

Tool II: Mothers' knowledge about chocking. It comprised 6 questions of 12 as total score for knowledge of mothers.

Tool III:

Part I: reported mothers practice in respect to prevention of chocking, that including measurers checklist utilized in chocking prevention, 18 items which mothers should know to prevent chocking,

Part II: Mothers' reported practice regarding first aid for chocking child, adapted checklist include standardized steps for first aid used in reliving of chocking.

Part III: Strategies as supportive for prevention of chocking

This part included booklet guide for mothers to avoid chocking among children less than 5years.

2.7 Study as pilot

pilot was performed on 10% of sample size for clarity ensuring, tools applicability, and sample estimation size and the needed time for collecting data. The pilot sample study was omitted from size of total sample.

2.8 Reliability and validity

Tools were given in to 5 expert's panel in different fields of nursing to test validity content. Reliability test was performed utilizing test of Cronbach to be reliable accepted on (Cronbach alpha was 0.82).

Technique

This current work performed on 3 phases:

1- Phase of pre-paratory: A review of previous and current, international, and national literature being related was done in several problems aspects utilizing articles, books, magazines, and periodicals.

2- Planning phase: the supportive strategy was developed, after an extensive literature review

considering mothers and their levels of understanding. After that, the training was conducted.

3- Implementation phase:

Before collection of data and conducting the study, official consent was gained from the research scientific hospital board, the pediatric outpatient head of the department of El Sayed Galal University hospital.

- Informed oral approval by mothers was given before study participation.

-At the opening interview, the researcher introduced herself to initiate communication line explaining supportive strategies purpose and nature. The study was performed in the morning from 9 Am to 2Pm.

-Developing session of training according to obtaining information from initial evaluation the researchers developing training sessions for improving knowledge of mothers and practice regarding prevention and first aid of mechanical air way obstruction among children.

-Every mother along her child was individually interviewed following study method and purpose explaining. Each interview approximately took 30 to 40 minutes to finish filling in tool of study, based on mother's response and understanding.

- Collected data were started at Oct., 2018 till end of Apr., 2019.

4- Evaluation phase:

In the out patients, mothers met with researchers for evaluating the test of strategy as post supportive

Results

Table (1): Socio-demographic studied mothers Characteristics and their children distribution % (n= 300)

Characteristics	Characteristics of Socio-demographic	
	No.	%
Age of mother:		
< 25 years	35	11.7
25 < 30 years	105	35
30 < 35 years	98	32.6
35 < 40 years	47	15.7
≤ 40 years	15	5
Mean ± SD	34.13± 8. 97	
Mother's Level of education:		
Illiterate	29	9.7
Read & write	38	12.7
Preparatory education	43	14.3
Secondary education	82	27.3
High education	108	36
Child's age (years)		
≤ 2 years	209	69.67
3 ≤ 5 years	91	30.33
Mean age= 2.92 ± 1.15		

Cont... **Table (1): Socio-demographic studied mothers Characteristics and their children distribution % (n= 300)**

Child's gender		
Male	197	65.67
Female	103	34.33
Birth order of child		
One	98	32,67
Two	142	47,33
Three	39	13
Four and more	21	7
Previous first aid for choking training		
Yes	70	23.3
No	230	76.7
History of child chocking at home		
Yes	196	65.3
No	104	34.7

Table (1) illustrated that, more than one third (35%) of the studied mothers were aged 25 < 30 years old while only (5%) aged ≤ 40 years, with the mean age =34.13± 8. 97,according to education level, extra than one third (36%) of them were of high level of education. nearly three quarters were working, while more than three quarters of them (76.7)were didn't receive previous training program related to prevention and first aid of mechanical airway obstruction among children, and about two thirds of them(%65.67, %65.3) were male and had history of child chocking at home respectively. Additional than $^{2}/_{3}$ of enrolled children (%69.67) were less than three years of age where mean age = 2.92 ± 1.19.

Figure 1: Knowledge source of the studied mothers regarding first aid and prevention of mechanical airway obstruction among children, before and after supportive strategy (n= 300).

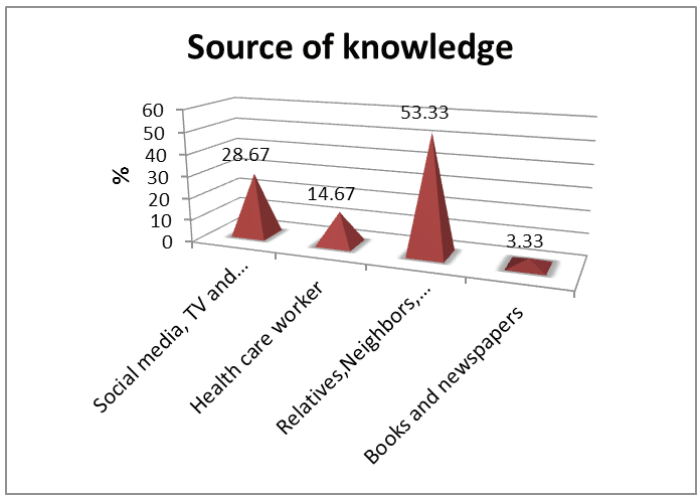

Figure (1) represented over half (53.33) of mothers studied their source of knowledge regarding prevention and first aid of mechanical airway obstruction among children from relatives, neighbors, and friends while only (14.67) from health care workers(doctors and nurses).

Figure(2): Distribution of Mothers' Total Mean Knowledge Score Regarding Prevention and First aid of Mechanical Airway Obstruction among Children, before and after Supportive Strategy (n= 300).

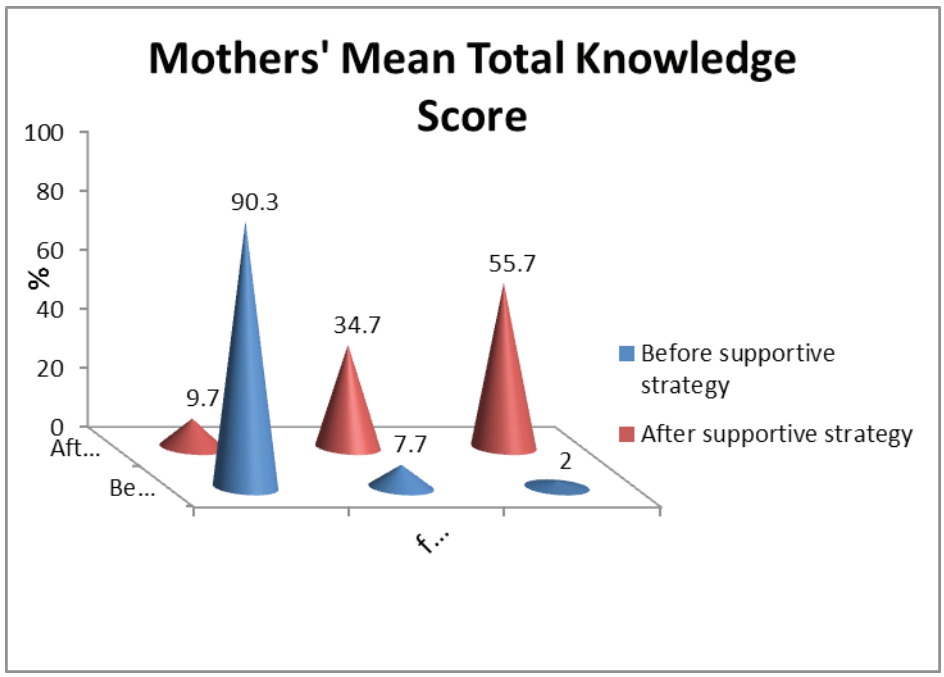

Figure (2) revealed that nearly hundred percent (90.3 %) of the studied mothers had unsatisfactory knowledge score regarding prevention and first aid of mechanical airway obstruction while only (2.0%) of them had good knowledge before supportive strategy compered to more than half (55.7) after supportive strategy. it was found that there was highly differences of significant between mothers' total mean knowledge score before and after supportive strategy at p. value<0.001**

Figure(3): Distribution of the Mothers' Mean Total practice Score Regarding Prevention and First aid of Mechanical Airway Obstruction among Children, before and after Supportive Strategy (n= 300).

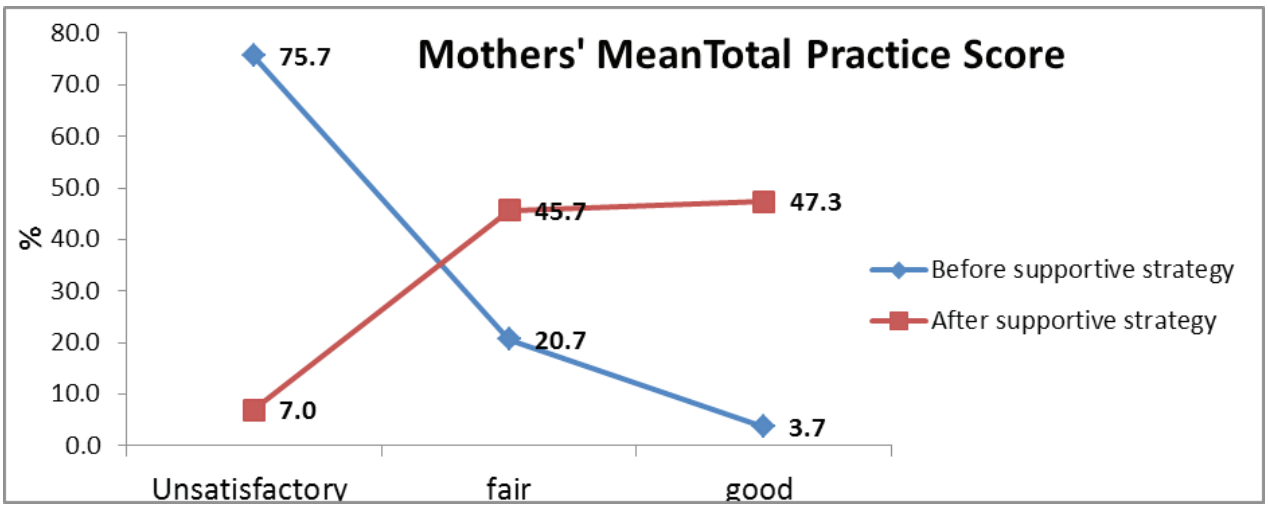

Figure (3) revealed more than 3 quarters (75.67 %) of the mothers studied had unsatisfactory score of practices regarding prevention and first aid of mechanical airway obstruction while only (3.67%) of them had good practices before supportive strategy compered to nearly half had fair and good practices (45.67and 47.33)respectively after supportive strategy. it was found that there was highly significant of differences between mothers' total mean practices score before and after supportive strategy at P. Value<0.001

Discussion

Currently, safety of child stays significant parent's anxiety. Exposed children to risk of injury as they raise, children have a very limited capability to react rapidly and correctly in situation of emergency, that elevate chocking and death risk [4]

Results exposed that studied mothers mean age was 34.13± 8.97 years old. According to education level, extra than one third of them were had high level of education. Nearly three quarters were working, while more than three quarters of them were didn't receive previous training program related to prevention and first aid of mechanical airway obstruction among children.

These findings go in the same line with Nour et al., (2017) [13] who assess attitude, knowledge, and mother's practices towards accidents of home among children at KSA reported which about 35.16% of the studied mothers had age ranged from 20 – 30 years. While dis agree with More than half of them were not working (58.59%), had University education (57.81%) and having more than 2 children aged 2 – 6 years (54.69%) and one fourth had previous training on first aid but dis agree related working as More than half of them were not working (58.59%).

The findings of the current study reinforced by **El-Sabely et al (2014).,** who studied Education of mothers and their knowledge regarding prevention of home accident among pre-school children in rural areas in Governorate of Sharkia, revealed mothers age means of (34.1±9.6) years. In respect to level of education, 33.3% finished university level where more than $^1/_2$ injured children (59.3%) were of 3years or lower, more than $^1/_2$ of them (58.7%) were males. But dis agree related to status of occupation revealed that over $^1/_2$ of mothers (58%) with no work.

The current results represented that over $^1/_2$ half mothers their source of knowledge from relatives, neighbors, and friends while only (%14.67) from health care workers(doctors and nurses). This result supported by [13] who revealed that, Nearly two third of participants depend on social media as a source of knowledge about home accidents followed by doctor/nurse and the least sources were books and newspapers (17.97%). As well as agree with child **El-Sabely et al (2014),**who revealed that over $^3/_4$ of them gained their data from relatives, and radio and TV, then "doctors and nurses" (15.3%) , "part of curriculum" approximately (14%) whereas source being lowest was from "books" (6.7%).

The current results illustrated there was difference of significant between mothers' total mean knowledge and reported practice regarding prevention and first aid of mechanical airway obstruction among children, before and after supportive strategy. Such results are in accordance with the proposed hypothesis and reinforced with Alazab, (2012) and Eldosoky, (2012) who concluded that in the pretest, mothers of deficit knowledge.

The current study illustrated that nearly hundred percent of the studied mothers had unsatisfactory knowledge score regarding prevention and first aid of mechanical airway obstruction while only (2.0%) of them had good knowledge before supportive strategy compered to more than half after supportive strategy. it was found that there was highly differences of significant between mothers' total mean knowledge score before and after supportive strategy at p. value<0.001. This goes in the same line with Karyś , et al., (2016) who investigated knowledge of mothers of first aid administration to pre-schoolers in incidents of choking, in Poland revealed that 58% evaluated their knowledge being poor while 18% were disable to self-evaluate their skills as they were not sure that their knowledge was accurate.

This result supported by [18] who assessed the structured teaching programme effectiveness on mothers knowledge in respect to accidents prevention among pre-schoolers in designated Anganwadi , revealed that pre-test majority of mothers 75 (75%) had knowledge as average, 14 (14%) had knowledge as good and 11 (11%) had knowledge as poor, whereas in post-test indicated a marked increase in knowledge level, that all the mothers 100(100%) had good knowledge regarding prevention of accidents among preschooler's. This findings are comparable with the study findings of [9] post-test mean knowledge score (24.14±2.01) was upper than the pre-test mean knowledge score (10.33±2.06) (11). Another study by [17] conducted in mothers (155) in Brazil where results showed a significant surge in knowledge regarding accidents prevention in children in all questions self-applied (p<0.05).

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Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the Faculty of Nursing and all experiments were carried out in accordance with approved guidelines.

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