

# Effect of back blow health education with demonstration method on mother's knowledge in first aid for choking children

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## ABSTRACT

Choking is an emergency condition that can occur at any age, especially in children and infants. This condition can make a person experience a blockage in the respiratory tract so that immediate help is needed because it can make the body experience hypoxia which can lead to death. One of the basic life support measures in first aid for choking patients in children and infants is the backblow method. The sooner victims are found and help is carried out, the survival will increase so that they avoid disability or death. The purpose of this study was to determine the effect of giving backblow education using the demonstration method on mothers' knowledge in first aid for choking children. The research method uses a quantitative method with a quasi-experimental research design - nonequivalent without control group design involving 34 respondents with consecutive sampling. Data were analyzed using SPSS with paired t test or t dependent. The results showed that the average knowledge score before the intervention was 12.68 with a standard deviation of 2.212 while the knowledge score after the intervention was 17.00 with a standard deviation of 1.891. The conclusion is that there is an effect of backblow education with the demonstration method on mother's knowledge in first aid for choking children.

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## INTRODUCTION

Choking is an emergency condition that can occur at any age, especially in children and infants. This condition can make a person experience a blockage in the respiratory tract so that immediate help is needed because it can make the body experience hypoxia and result in death (Palimbunga et al., 2017). Based on data from the World Health Organization (WHO) it was stated that in 2011, there were 17,537 cases of children aged toddlers (1-3 years) experiencing choking, with 59.5% causing food, 31.4% choking due to foreign objects, and 9.1% other causes are unknown (Siahaan, 2019).

Choking is the fourth leading cause of unintentional death, the leading cause of infantile death, and the fourth leading cause of death among preschool children (Salih et al, 2016). Based on

data from the Office for National Statistics, it stated that there were 289 deaths in 2016 and an increase of 17% from the previous year (Palimbunga et al., 2017). There have been many cases of choking in Indonesia. In 2015 in the Province of Bali there was a 6 month old baby who died as a result of being given milk which resulted in choking (Palimbunga et al., 2017). Daily activities are inseparable from various activities that are at risk of causing harm, especially for children and infants. Children who are in the age stage of growth and development have unique characteristics and high curiosity. The various characteristics of these children require intense supervision by parents to minimize the risk of accidents in children (Sepang et al., 2013).

Measures to overcome the choking problem need to be done when you first find a victim with this condition. The quicker the victim is found, the sooner the patient gets help so that he or she avoids disability or death. If it is too late to provide food assistance there will be a lack of oxygen for 6-8 minutes which will cause permanent brain damage for more than one minute which will cause death (Rifai & Sugiyarto, 2019).

Based on data from the Health Service, the child and infant mortality rate in Central Java province in 2016 reached 9.9 per 1000 live births. in Karang Anyar district it is still the 6th highest when compared to other districts in Central Java, namely 12.7 per 1000 live births. and one of the factors of child and infant mortality besides LBW is choking (Dinas Kesehatan Provinsi Jawa Tengah, 2017). Most people do not know what first aid measures will be taken when their child is choking, but what happens is that the dominant community experiences panic when they find a victim in a choking condition (Sari & Saputro, 2018). Based on this, it is necessary to educate the general public about first aid (airway management) for airway obstruction problems, in order to minimize the incidence of disability or even death.

## RESEARCH METHOD

### Participant characteristics and research design

Characteristics of participant in this study were mothers who had children under five using quantitative methods and a quasi-experimental research design - nonequivalent without control group design consisting of 34 respondents using consecutive sampling techniques. The research was carried out in 16 October 2022 - 18 December 2022 at Puskesmas Wonorejo.

### Instruments

The knowledge instrument in handling choking patients used in this study was adopted from Panji, (2019) and the research data were processed using the SPSS 22 program.

### Data Analysis

This study used univariate analysis using statistical descriptions to determine the characteristics of the respondents and bivariate analysis using paired t-tests to determine the effect of backblow education on mothers' knowledge in performing first aid for choking children.

## RESULTS AND DISCUSSIONS

Based on the results of the descriptive analysis test, the characteristics of the respondents were obtained from several dimensions including age, education and profession (Table 1). And on the results of the bivariate test using the paired t-test, the average score of mother's knowledge before being given backblow education was given with a score of 12.8 and after being given backblow education it had a score of 17.00 (Table 2) and in the effect test it was found that there was an effect of providing backblow education on mother's knowledge in providing first aid to a choking child with a p-value of 0.000 with a standard deviation of 1.821 (Table 3).

**Table 1.** Distribution of age, education and profession of mothers in first aid to choking children at Puskesmas Wonorejo

No	Age	Frequency	Percent (%)
1	17-25	6	17.6
2	26-35	28	82.4
	Total	34	100
<b>Education</b>			
1	Junior High School	13	38.2
2	Senior High School	15	44.1
3	Bachelor	6	17.6
	Total	34	100
<b>Profession</b>			
1	Housewife	26	75.5
2	Self-employed	5	14.7
3	Teacher	1	2.9
4	Civil servant	2	5.9
	Total	34	100

**Tabel 2.** The average score of mothers' knowledge before and after being given back blow education in first aid for choking children at Puskesmas Wonorejo

No	Variabel	Average value	Standard Deviation
1	Pre-intervention knowledge	12.68	2.212
2	Post-intervention knowledge	17.00	1.891

**Tabel 3.** The effect of back blow education on mothers' knowledge in first aid for choking children at Puskesmas Wonorejo

No	Variabel	Difference value	Standard Deviation	p-value
1	Pre knowledge - Post knowledge	4.324	1.821	0.000

## Discussions

### Characteristics of participant

Age is the life span measured in years, starting from the time of birth until the birthday. According to Goni et al., (2013), increasing a person's age can affect the knowledge he acquires, at a certain age or towards old age the ability to accept or remember something can be reduced.

The results showed that the most vulnerable group of mothers with toddlers was aged 26-35 years, namely as much as 82%, this shows that the age of the vulnerable is one of the factors that influence the process of providing training and education to be well received, this is in line research conducted by Palimbunga et al., (2017) on 124 respondents, showed that the most vulnerable age group was 25-36 years old.

The same thing when viewed from the educational dimension, Education is the guidance given by someone to the development of others to achieve certain goals. Education is needed to obtain information, for example things that indicate health so that it can improve one's quality of life. The results showed that most of the mothers' education was at the senior high school level with 15 respondents or 44.1% of the total respondents. According to YB Mantra quoted by Notoatmodjo, (2012) wrote that education can affect a person, including one's behavior towards lifestyle, especially in motivating their life. In general, the higher a person's education, the easier it is to receive information.

According to Thomas quoted by Nursalam, (2012), work is an activity that must be carried out especially to support his life and family life. While work in general is a time-consuming activity. For mothers, it will affect family life and one's work greatly influences the process of accessing the information needed for an object. The results of the research show that the work of the most

respondents in this study is housewives with a presentation of 75.5%. This means that the mother's time with the child for the majority of respondents is almost 24 hours.

### **Mother's knowledge before being given back blow education with the demonstration method of mother's knowledge in first aid for choking children**

The results of the paired t test in the pre-test before being given the intervention showed that the average score of mothers' knowledge in first aid for choking children in the Wonorejo health center area was 12.68 (17.6%) with a standard deviation of 2,212. It can be seen that the mothers' knowledge in this study was at medium category. The results of this study are supported by research conducted by Putri et al., (2021) which showed the results that the mother's knowledge score about handling choking at toddler age was in the moderate to low category with a score of 29.0%. In this study it was stated that it was necessary to provide education and training in first aid for choking patients to mothers who have children under five.

Knowledge is a term used to say when someone knows about something. According to Notoatmodjo, (2012) says that knowledge is the result of human sensing, or the result of someone knowing objects through their senses. Knowledge is an important aspect that must be owned by a mother, because the first school for children when they get care is from a mother. In parenting, generally parents let their child play while eating, including talking while eating and even laughing when being fed food with the excuse that the child wants to eat. Meanwhile, when a child eats while laughing or talking, it can cause food or drink to enter the respiratory tract, thus blocking the passage for air to enter and leave or what is often known as choking.

American Academy of Pediatrics, (2010), explains that choking is a major cause of morbidity and mortality among children. The incidence of choking in children aged less than 1 year is (30.5%), choking in toddlers is (77.1%). And according to YAGD 118 data in 2015, child deaths due to airway obstruction that occur at the age of less than 5 years almost reached a percentage of 90% (Siahaan, 2019). so it is necessary for mothers to know about first aid when a child experiences choking.

### **Mother's knowledge after being given back blow education with the demonstration method of mother's knowledge in first aid for choking children**

The results of the paired t test in the post test before being given the intervention showed that the average score of mothers' knowledge in first aid for choking children in the Wonorejo health center area was 17.00 (17.6%) with a standard deviation of 1.891. It can be seen that the mother's knowledge score after being given the intervention in this study are in the good category. The results of this study were supported by research conducted by Aidah, & Novianty, (2022) which showed that the mother's knowledge score regarding choking management at the age of five after being given education experienced a significant increase, namely being in the moderate to good category with a score of 61.8%.

This is directly proportional to the results of the research on the characteristics of the respondents showing that the education of the respondents in this study was mostly in the upper middle category, amounting to 44.1%. This shows that one's education can influence one's way of thinking and perspective on the information received so that the higher one's education, the easier it is to understand the information received.

### **The effect of back blow education with the demonstration method on mother's knowledge in first aid for choking children.**

The results of the study on the effect of back blow education using the demonstration method on mother's knowledge showed that the non-parametric paired t test showed that the p-value <0.00. it means that there is an effect of backblow education on mother's knowledge in first aid for choking children. This is in line with research conducted by Rizqiea & Utami, (2020) which

showed a p-value <0.000, which means that there was an influence on the knowledge of cadre mothers in handling choking child patients from lack of knowledge to good knowledge with a presentation of 79%. In another study conducted by Pandegirot, et al, (2019) stated that there was an influence of health education on choking management on the knowledge of breastfeeding mothers at the Ranotana Weru Health Center, Manado. This article conveys the importance of conducting health education about handling choking cases to the knowledge of breastfeeding mothers, because this education can minimize and reduce the risk of infant death due to choking.

Choking is a condition in which a small object, toy or piece of food blocks the airway. At the age of infants and children, anatomically they have very small airways so they can make choking easier compared to adults (Cole, 2006). Infants and children are more at risk of choking because they are still at the stage of the development process where the focus is still on exploring the environment and certain objects that are beside or in their environment by using their mouths.

In handling choking in infants, it should be noted that the stomping maneuver on the stomach is not recommended for babies under 1 year of age because it can cause injury to their internal organs so to overcome choking it is recommended to do a backblow maneuver. Apart from that, the pounding of the stomach in a baby or child can make neck movements beyond the tolerable limit, if this occurs, dislocation of the spine and the possibility of injury to the spinal cord can occur, so how important it is for a mother to know and be able to take the main actions when her baby and child experience choke (Thygerson, et al, 2007).

Children under three years of age are more easily distracted because they focus on playing and most children can eat while running, laughing and even talking so that this can increase the risk of choking (Denny et al., 2015). Knowledge and skills in handling choking patients in children and toddlers are very important for a mother to have, especially a mother who is under the supervision and care of children for 24 hours. It is necessary for mothers to receive education and training regarding the handling of choking in children so that when choking occurs a mother does not panic and become hysterical, but is able to recognize the signs of choking and can calmly do first aid before going to health services.

## CONCLUSION

Based on the results of the study it can be seen that there is an effect of providing back blow education on mothers' knowledge in first aid for choking children in the Wonorejo health center area with a p-value of 0.00. The results of this study are expected to be a reference in providing first aid in the handling of choking patients for respondents. It is Hoped future research can develop variables of first aid in choking patients on the mother's knowledge and skills with other methods, such as the chest thrust method with research using a control group so that there is a comparison group to see the effectiveness of choking in infants and children.

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### **Ethical Consideration**

In this research, an ethical test was carried out on the ethics committee of Kusuma Husada University, Surakarta with Ethical Consideration number 123/UKH.L.02/EC/IX/2022.

### **Conflict of interest**

The author has no conflict of interest

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