

## The Effect of Choking Management Education for Toddlers Aged 1-5 Years on Parents Knowledge

Rafidaini Sazarni Ratiyun<sup>1\*</sup>, Vellyza Colin<sup>2</sup>, Ida Rahmawati<sup>3</sup>, Lala Nor Safitri<sup>4</sup>, Noza Anita<sup>5</sup>

<sup>1,2,3,4,5</sup> Ners Program Study, STIKES Tri Mandiri Sakti Bengkulu

\*correspondence author:

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### ABSTRACT

Choking is an emergency condition that must be treated quickly, if it takes too long it will result in a lack of oxygen and lead to death due to blockage of the respiratory tract by foreign objects in the form of food, toys, etc. Choking can lead to death due to lack of knowledge of handling choking. The purpose of this study was to determine the effect of education on handling choking in children under five on the knowledge of parents in the working area of the Ratu Agung Health Center, Bengkulu City. The design of this study was pre-experimental design with a one group pretest posttest design. To determine the number of samples using the Paul Leedy formula with the results obtained are 30 parents who have toddlers aged 1-5 years. The research instrument used a questionnaire on parental knowledge about choking in children. The research data were analyzed using paired t-test with a significance level of  $p < 0.05$ . Respondents to this study consisted of 30 parents. Research shows that parents' knowledge after being given education is higher than before being given education. The average knowledge after being given education is 35.63. The results of data analysis obtained  $p\text{-value} = 0.000 < 0.05$  which means that there is an effect of education on choking management in toddlers aged 1-5 years on parents' knowledge. Providing education using booklets, is effective in increasing parents' knowledge in handling choking in toddlers aged 1-5 years.

**Keyword:** Education, Knowledge, Choking

### ABSTRAK

Tersedak merupakan kondisi gawat darurat yang harus cepat ditangani, bila terlalu lama akan mengakibatkan kekurangan oksigen dan mengakibatkan kematian karena kondisi tersumbatnya saluran pernapasan oleh benda asing yang berupa makanan, mainan, lain-lain. Tersedak dapat mengakibatkan kematian karena kurangnya pengetahuan penanganan tersedak. Penelitian ini bertujuan untuk mengetahui pengaruh edukasi penanganan tersedak pada balita usia 1-5 tahun di wilayah kerja puskesmas Ratu Agung Kota Bengkulu. Desain penelitian yang digunakan peneliti adalah pre-eksperimental design dengan rancangan one group pretest posttest. Untuk menentukan jumlah sampel menggunakan rumus Paul Leedy dengan hasil yang didapat adalah 30 orang tua yang memiliki balita usia 1-5 tahun. Responden dalam penelitian ini terdiri dari 30 orang tua. Penelitian menunjukkan pengetahuan orang tua setelah diberikan edukasi lebih tinggi dibandingkan sebelum diberikan edukasi. Rata-rata pengetahuan setelah diberikan edukasi adalah 35,63. Hasil analisis data diperoleh nilai  $p\text{-value} = 0.000 < 0.05$  yang berarti bahwa terdapat pengaruh edukasi penanganan tersedak pada balita usia 1-5 tahun terhadap pengetahuan orang tua. Pemberian edukasi menggunakan booklet efektif dalam meningkatkan pengetahuan orang tua dalam penanganan tersedak pada balita usia 1-5 tahun.

**Kata Kunci:** Pendidikan Kesehatan, Pengetahuan, Tersedak

\*Correspondence author: [rafidainisazarni@gmail.com](mailto:rafidainisazarni@gmail.com)

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## Introduction:

Choking is an emergency condition that must be treated quickly, if it takes too long it will result in a lack of oxygen and lead to death due to blockage of the respiratory tract by foreign objects in the form of food, toys, etc. Choking can lead to death due to lack of knowledge of handling choking. The purpose of this study was to determine the effect of education on handling choking in children under five on the knowledge of parents in the working area of the Ratu Agung Health Center, Bengkulu City. Choking in children is most often caused by food that is not chewed properly, food with pieces that are too large, and hard candy. Small objects such as coins, nuts, marbles, or pins that like to be put in your mouth can also be a cause of choking (Adhi, 2020). Centers for Disease Control for nonfatal choking episodes in children admitted to the emergency department, 13% of choking episodes were attributed to coins and 19% to candy or chewing gum. Latex balloon was the most likely fatal foreign body aspiration, accounting for 29% of foreign body aspiration deaths between 1972 and 1992. Over the same time period, hot dogs were the most fatal food aspiration, accounting for 17% of food-related aspiration deaths (Duckett et al., 2022)

Data from the Emergency Ambulance Foundation 118 (2015) children aged <5 years experienced 90% death caused by obstruction of foreign bodies in the airways (Siahaan, 2019). Indonesia in Grobogan, Central Java, data from Soedjati Soemardiardjo Purwodadi Hospital for the period 2016 - April 2018 there were 4 cases of toddlers experiencing choking who were treated (Rahmawati & Suryani, 2019).

Basically, choking case can be handled by anyone, especially families with toddlers. Skills for first aid in children is the next step that must be taken by parents or caregivers. Because the quick skills of parents or caregivers greatly affect the safety of children. Knowledge is also important for individuals who have children under five. Lack of knowledge will have an impact on the behavior of parents or caregivers in dealing with choking in children. If the behavior in handling choking in children is

correct, it will avoid the threat of death, and vice versa. One way to increase knowledge about handling choking is to provide health education. This is related to the role of nurses as educators (Dwi et al., 2015). Based on its function as a distribution of health messages (media), this media is divided into three, namely print media, electronic media, and board media. Electronic media include videos and slides, print media include flipcharts, booklets, rubrics, photos, and posters (Sulistiyani & Ramdani, 2020). The educational media used in this research is a booklet. The advantage of using booklet media is that it can be studied at any time, contains relatively more information than posters, and users can view its contents at leisure (Ansen, 2020).

Research conducted by (Nurhayati et al., 2017), shows the results obtained are that there is an influence between health education about handling foreign body choking in toddlers on maternal self-efficacy. Initial data collection was carried out by interviewing 5 parents who had toddlers in Sidodadi, Bengkulu City, the results obtained were actions when choking on toddlers were recommended to drink lots of water, and pat the child's back. From the data obtained, the family had never received education regarding the handling of choking in children before. From the results of these interviews, it can be concluded that some parents taking action to handle choking in toddlers are not appropriate.

## Methods:

The research design used by the researcher was a pre-experimental design with a one group pretest posttest design. To determine the number of samples using the Paul Leedy formula with the results obtained are 30 parents who have toddlers aged 1-5 years in the working area of the Ratu Agung Health Center in Bengkulu city. This study was conducted to determine the effect of education on handling choking for toddlers aged 1-5 years on the knowledge of parents in the working area of the Ratu Agung Public Health Center, Bengkulu city. Research data collection was carried out on 19 - 26 June

2021, using interview techniques and filling out questionnaires that had been prepared.

The population of this research is all parents who have toddlers aged 1-5 years in the working area of the Ratu Agung Health Center in Bengkulu city. Many samples used were 30 parents who have toddlers aged 1-5 years in the working area of the Ratu Agung Health Center in Bengkulu city. The sampling method is purposive sampling with the number of samples using the Paul Leedy formula, namely purposive sampling is based on certain considerations made by the researcher himself based on the characteristics and characteristics of the population that have been known previously.

This study was conducted to determine the effect of education on handling choking for toddlers aged 1-5 years on the knowledge of parents in the working area of the Ratu Agung Public Health Center, Bengkulu city. Research data collection was carried out on 19 — 26 June 2021, using questionnaires that had been prepared. The population in this study were all parents who had toddlers aged 1-5 years who were in the working area of the Ratu Agung Health Center in Bengkulu city. Sampling was carried out using a purposive sampling technique with the Paul Leedy formula to determine the number of samples.

At the time of this study, the researcher gave an explanation of the research to the respondents and asked for the signature of the consent form, if they were willing to become respondents. After obtaining the respondent's consent, the researcher gave a questionnaire about parents' knowledge about handling choking in toddlers, and asked the respondent to give a check mark until all questions were filled in (pre-test). Then proceed with providing education using booklets to respondents. It is recommended for each respondent to be able to re-read the booklet in order to increase knowledge and understand the contents of the booklet for 1 week, so that it is hoped that the respondent can apply the handling method if choking occurs in a toddler. One week after giving the educational booklet to the respondents, the researcher gave a questionnaire about choking in toddlers to see if the

respondent had read or studied the booklet that had been given, and see if there was an increase in knowledge.

The data collection technique used for this study was a questionnaire about knowledge of handling choking in toddlers. This questionnaire was conducted by distributing a list of questions in the form of forms, submitted in writing to a number of parents with toddlers aged 1-5 years to get responses, information, answers, and so on. The questionnaire about parents' knowledge in handling choking in toddlers used in this study consisted of 4 topic sections, namely 1. first aid mechanisms for choking toddlers, which consisted of 11 statements; 2. Sandwich Back Slap or Back Blows, consisting of 10 statements; 3. Chest Thrust (Chest Pressure/Chest Compression), consisting of 8 statements; 4. The Heimlich Maneuver (emphasis on the stomach just below the ribs), consists of 12 statements. The total statements in this questionnaire are 51 statements. Respondents must answer each statement by ticking the "yes" and "no" options. The minimum score for this questionnaire is 0, and the maximum score is 51. The questionnaire in this study was adopted from research conducted by Tarigan in 2019.

The normality test is the distribution of the research data using the Shapiro-Wilk technique. The results of the data normality test using Shapiro Wilk obtained a significance value of knowledge about handling choking before being given education of 0.679 and the significance of knowledge after being given education was 0.050, meaning that both data variables were normally distributed with a p-value > 0.05.

Univariate analysis used to describe the characteristics of each research variable. Bivariate analysis was carried out on two variables that were thought to be related or correlated. Bivariate analysis was used to determine the Effect of Choking Handling Education on Parents' Knowledge in the work area of the Ratu Agung Health Center in Bengkulu City by using the Paired Sample T-Test statistical test.



This research was conducted based on the recommendation of a research permit numbered 070/448/B.Kesbangpol/2021.

## Results:

**Table 1. Characteristics of Respondent**

Variable	n	Percentage (%)	Mean (SD)
Age	30		30.6 (6.93) Min – Max 21 – 44
Education:			
Junior High School	12	40	
Senior High School	13	43.3	
College	5	16.7	
Work:			
Housewife	19	63.3	
Farmer	1	3.3	
Employee	8	26.7	
Teacher	2	6.67	

Table 1 shows that the average age of the respondents is 30 years, with the youngest being 21 years old, and the oldest being 44 years old. Almost half of the respondents have high school education, that is 13 (43.3%). Most of the respondents work as housewives, that is 19 (63.3%).

**Table 2. Score Difference of parents' knowledge before and after giving education.**

Parents' knowledge	Mean (SD)	Min	Max	CI 95%	P
Pretest	21.33 (3.356)	15	29	20.08 – 22.59	0.000
Posttest	35.63 (3.792)	29	41	34.22 – 37.05	

Based on table 2, it can be seen the knowledge of parents before education has an average = 21.33 (less) and std. Deviation = 3.356, with the lowest score of 15 and the highest score of 29. After education, the knowledge of parents has an average = 35.63 (good) and std. Deviation = 3.792, with the lowest score of 29 and highest score of 41. The results of the t-test of the two related samples

(Paired sample t-test) obtained the value of  $t = 18.745$  with  $p\text{-value} = 0.000 < 0.05$  significant, then the results are  $H_0$  is rejected and  $H_a$  is accepted. So the conclusion is that there is an effect of education on handling choking in toddlers on the knowledge of parents in the working area of the Ratu Agung Health Center, Bengkulu city

## Discussion :

The results of the analysis using the Statistical Paired Sample t-test by showing the value of  $t = 18.745$  with  $p\text{-value} = 0.000 < 0.05$  significant. The results show that there is an effect of education on handling choking for toddlers aged 1-5 on the knowledge of parents in the working area of the Ratu Agung Health Center in Bengkulu city. This study is in line with the results of research conducted by (Sulistiyan & Ramdani, 2020), using the paired t-test sample test above that the average value is -26.50 with a Standard Deviation of 23,568, t-score of -6.159, and  $p\text{-value} 0.0001$ . The results of statistical tests can be concluded that there is an effect of health education with booklet media on handling choking in children on the level of knowledge of Posyandu cadres in Karangsari Village. The results of the study showed that before being given education there were most of the 30 parents who had less knowledge and had an increase after education was given. It is necessary to provide re-education by the Puskesmas to the community in the working area of the Ratu Agung Health Center, Bengkulu City. So that the public can increase knowledge about choking and prevent deaths from choking.

Based on the results of the study, it can be seen that the frequency distribution of parental knowledge about handling choking in toddlers aged 1-5 years before educating parents in the working area of the Ratu Agung Public Health Center in Bengkulu City is from 30 parents there are 23 parents (76.7%) have less knowledge, 7 parents (23.3%) have sufficient knowledge, and none of the parents (0%) have good knowledge. The results of this study are in line with research conducted by Tarigan (2019), it was found that the description of mother's

knowledge of first aid for choking toddlers in Tuntungan II Village was mostly less knowledgeable as many as 32 respondents (62.7%), with good knowledge only 7 respondents (13.7%). %) and have sufficient knowledge of 12 respondents (23.6%). Based on Harigustian, (2020), lack of knowledge of mothers on first aid for choking toddlers at Graha Sedayu Sejahtera Housing based on observations, respondents who work as housewives, are less interested in increasing knowledge because there is no interest in trying and pursuing something to gain deeper knowledge.

For parents in the working area of the Ratu Agung Health Center, Bengkulu city, the results of the analysis showed that they did not know how to properly handle choking, especially with the Chest Thrust technique. Most parents will pat the back if the child is choking, and provide plenty of water to drink. For knowledge of the Heimlick Maneuver technique, some parents know, but do not understand how to do it. According to Yusniawati et al., (2022) shows that there are benefits of providing health education about handling choking on foreign bodies in children on mothers' knowledge about choking, so providing education is important to do.

Knowledge after educating parents in the working area of the Ratu Agung Health Center in Bengkulu city showed that from 30 parents there were 4 parents (13.3%) who had sufficient knowledge, and 26 parents (86.7%) who had good knowledge. The results of (Dwi et al., 2015) family knowledge pretest - posttest education about prevention and treatment of choking in children, before education as many as 19 people (95%) had less knowledge and 1 person (5%) had sufficient knowledge, while after being given education as many as 20 people (100%) in good category. When providing education, parents pay close attention to the explanation given by the researcher. In addition to explaining, the researcher instructed parents to read the booklets that the researchers had prepared as educational media that had been prepared. So that parents can better understand how to handle choking in toddlers. Based on

(Oktaviani, 2019), after conducting health education using the demonstration method, post-test data showed that most of the respondents had been able to perform observations, Heimlich maneuvers, evaluations and were able to perform sequentially. At the time of the interview, the mother stated that she understood more.

In this study, the post-test questionnaire given was the same as the pre-test questionnaire which was conducted 7 days after education on the handling of choking in toddlers aged 1-5 years. The time interval given after the education is intended so that respondents can better understand and re-read the booklets that have been given. Based on the research of (Putri et al., 2016) the tool used in the questionnaire is a questionnaire that uses a self-administered questionnaire. The first thing to do is fill in the informed consent and pre-test data. Then the counseling was given and a post test was conducted using the same questionnaire as the pre-test questionnaire on the 7th day for 20 minutes to measure memory retention after the counseling. In the analysis of the results of 4 parents who had sufficient knowledge after choking management education, it was found that from education on how to handle choking, namely the booklet that had been given to parents did not read it again. So that the number of correctly answered questionnaires is around 24-30 with sufficient categories.

The average value of parents in the working area of the Ratu Agung Health Center in Bengkulu city before and after education experienced an increase in knowledge, namely with an average value of 21.33 (less) to 35.63 (good). This is in accordance with research conducted by (Dwi et al., 2015) which shows an increase in knowledge scores after family education, an increase in knowledge scores between before and after family education with a mean Pre-test score of 15.95 and an increase of 15.85 points to 31.80 on the average Post-test score. A person's knowledge can increase if it is supported by various factors, one of which is the availability of sufficient tools or facilities such as the information needed according to

problems that the respondent does not know about.

The assessment of parental knowledge in the working area of the Ratu Agung Health Center in Bengkulu City was taken based on the results of distributing questionnaires before and after providing education on choking management. From the questionnaire, it was found that before education was carried out there were 23 people who had less knowledge, after being given education there were 19 people who had good knowledge and 4 people had sufficient knowledge. While there are 7 people who have sufficient knowledge before being given education and after education all have good knowledge.

According to (Suparti & Amelia, 2019), an assessment of the success of the implementation of the activity can be seen from the results of the questionnaire distributed to the women of Aisyiyah cadres given before and after the activity. Based on the results obtained, there is an increase in public knowledge.

The use of media in health education also affects the level of knowledge of posyandu cadres. In this study, in addition to using the lecture and question and answer method, the researchers also used booklets as a medium for delivering health education. Media booklets can provide more complete information, attractive designs and have many pictures so that readers are interested in reading, and can be stored so that they can be read repeatedly. This is in line with Rathore et al., (2014) that there is an increase in knowledge of mothers after being given health education with booklet media, so that information on booklets is very effective for increasing knowledge of mothers. Booklets will give an impression to readers if they are presented with attractive images so that they are not formal and rigid. The advantages of booklets are that they can be stored for a relatively long time, can be studied independently, and can help other media.

The limitations of this study were that the researcher could not assess whether the respondent actually read the booklet that had been given at home, and this study also did not determine the duration of time for the

respondent to read the booklet, and did not carry out a posttest after being given education (before being given the booklet) to see differences in knowledge before being given the booklet and after being given the booklet.

## Conclusions:

The parents' knowledge about handling choking for toddlers aged 1-5 in the working area of the Ratu Agung Health Center, Bengkulu City before and after given education has increased and can be concluded that there is significant effect of education on handling choking for toddlers aged 1-5 on the knowledge of parents in the working area of the Ratu Agung Health Center, Bengkulu City. In further research, it is hoped that more than 1 post-test can be carried out to see knowledge retention after being given education, and providing education through demonstrations about handling choking on parental knowledge and skills can be used as a variable for further research.

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