

TRAINING OF CHOKING FIRST-AID FOR TODDLERS AFFECTING MOTHERS' KNOWLEDGE LEVEL AT INTEGRATED HEALTHCARE CENTER

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Abstract

Choking is the leading cause of mortality and disability in toddlers under three years or younger. In 1999 – 2017, 114 deaths occurred to children aged 1 – 4 years in the USA because of choking on food and unusual objects. The family's ignorance in choking first aid was also one of the reasons for mortality in toddlers. The research aimed to determine the effect on the training of choking first aid for toddlers towards mothers' knowledge level at Integrated Healthcare Center Dehong Tengah sub-district. It was a quantitative study with a quasi-experimental design using One Group Pretest-Posttest. It used quota sampling and obtained 39 respondents. Wilcoxon Signed Ranks Test showed that p-value 0.0001 ($p < 0.05$) meant that there is an effect from the training of choking first aid for toddlers towards mothers' knowledge level. It is also proven by the improvement of the mothers' knowledge before and after getting the training. It is expected that the mothers can apply the knowledge that they have got during the training if their toddlers need choking first aid.

Keywords: first aid training, knowledge, choking

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1. Introduction

One of the developmental phases in children is the oral phase, which occurred at age 0-1.5 years. In this phase, infants interact through their mouths to be threatened by various dangers in their life⁽¹⁾. The different children's behaviour can cause an accident if they have not been under excellent parental supervision or unsafe environment⁽²⁾.

The unsafe environment has high risk of causing the accident in children.

Three years old children usually explore their surrounding environment with their mouths. It was unsurprisingly that they tend to put foreign bodies into their mouth⁽³⁾. Without parental supervision, the action can cause choking. It has been the leading cause of mortality and disability in children, especially those aged three years or younger⁽³⁾.

Choking occurs if food or foreign bodies have come to the respiratory tract because of various causes⁽⁴⁾. According

to WHO (World Health Organization), 17,537 children aged three years or younger have a risk of choking; 59.5% because of food, 31.4% foreign bodies, and 9.1% with unknown cause^[5]. Data obtained from the Ministry of National Health Service explained that the objects causing choking were whole grains as 105 cases, nuts as 82 cases, vegetables as 79 cases, and the other cause like metal, food, and fish bones^[6]. Choking is an emergency that needs immediate help. When the brain did not get oxygen for more than 4 minutes, it could cause permanent damage and even lead to death^[7].

Choking is one of the reasons for mortality in children⁽⁸⁾. In 2010, in the USA, there have been choking cases in children less than four years old numbered 710 cases; in children under one year as 11.6%, 1-2 years as 36.2% and 2-4 years as 29.4%^[3]. There has been a child under one year passed away in the USA because of choking on unusual objects every five days, and more than 10,000 children have been hospitalized at an emergency department^[9]. Also, there have been 114 deaths in children aged 1-4 years because of choking on food and unusual objects in 1999-2017^[10]. Based on the data, choking has been one of the less resolved problems in the USA^[11].

Americans have not known on how to prevent the accident like choking⁽¹²⁾. If someone has knowledge dealing with choking first aid, it will increase the survival of victims. In Indonesia, there were no data or studies about the number of choking cases in toddlers yet. However, there have been choking cases in many areas. One of the cases was in Tegal on 25 November 2015; a child aged three years passed away because of choking on food "cilok"^[13].

According to RSUD dr Harjono Ponorogo, Semarang, in 2010, there were 112 choking cases^[14]. The research result has shown that 19 persons (95%) had poor knowledge on how to handle choking for toddlers, and only one person (5%) had sufficient knowledge^[15]. Thus, choking can be caused not only by food and

unusual objects but also by the family's ignorance in choking first aid; it is one of the main reasons for mortality in toddlers.

The mother's ability in choking first aid needs to be increased. The aids included chest thrust or Heimlich maneuver^[16]. Chest thrust is usually applied on children less than or equal to 1 with do supine position and get a massage on the top of the stomach five times. Heimlich maneuver is for children more than one year by positioning the child in front of helper, wrapping the arms around the child's body and bringing the hands with clench the right hand on the top of the stomach and stomping the back five times until the obstruction is out. If it did not turn out, it could be repeated by hitting on the back of the child^[17].

The knowledge about chest thrust or Heimlich maneuver can be obtained from training for mothers. The training is done as a way to spread information to the community. As educators, nurses' role is to give training for the client and the family to handle health problems^[18]. They present counseling to the community and expect that there will be a behavior change. Training has been essential as promotive and preventive to resolve emergencies^[19]. The training is performed in order to make the mothers understand and prevent choking in toddlers. All people should know how to do choking first aid because choking needs fast handling both self and others. Someone who finds the victim first has a vital role in saving the victim.

Based on the interview result as a preliminary study conducted on April 26th, 2020, it showed that 10 of 10 mothers were incorrect to handle choking in their children. If the children experienced choking, three mothers would pat on their children's back; five mothers blew the crown; two people gave a massage on their children's neck. One of the mothers claimed that when her child was in 7 months, experiencing choking until the skin got blue; it can be solved by blowing the crown. However, she was worried if the accident may happen again. Based on the mothers' experience of

handling choking, they did what their parents teach. Unconsciously, they have performed wrong ways, and it can endanger their children.

Based on the explanation, the authors were interested in researching "the effect from the training of choking first-aid for toddlers towards mothers' knowledge level at integrated healthcare center".

2. Method

The research was a quantitative study using a quasi-experiment approach with one group pre test-post test. The population was mothers who had toddlers and visit the integrated healthcare center. The sampling technique used was quota sampling and obtained 39 respondents.

Data were taken by questionnaire on knowledge of choking first aid training for toddlers. The data were analyzed by univariate with frequency distribution and bivariate with Wilcoxon test to determine the effect from the training of choking first aid toddlers towards mothers' knowledge level at integrated healthcare center Debong Tengah sub-district.

3. Results and Discussion

Table 1. Distribution of Mothers' Knowledge Level before Given Training of Choking First Aid for Toddlers

Knowledge Level	Frequency (n)	Percentage (%)
Excellent	7	17.90%
Sufficient	23	59.00%
Poor	9	23.10%
Total	39	100.00%

Table 1 shows that the mothers' knowledge level before the training 23 respondents (59%) had sufficient knowledge, only seven respondents (17.90%) had excellent knowledge about choking first aid.

Table 2. Distribution of Mothers' Knowledge Level after Given The Training of Choking First Aid for Toddlers

Knowledge Level	Frequency (n)	Percentage (%)
Excellent	37	94.90%
Sufficient	2	5.10%
Poor	0	0.00%
Total	39	100.00%

Table 2 shows the mothers' knowledge level after conducting the training of choking first aid for toddlers, and there is an increase of respondents with excellent knowledge, namely 37 respondents (94.90%) and there are two respondents (5.10%) in sufficient category.

The training can increase the mothers' knowledge. Based on the result of the Wilcoxon test, it described that p-value 0.0001 was less than 0.05 (alpha value), meaning that H_0 was rejected and H_a was accepted; there was an effect from the training of choking first aid for toddlers towards mothers' knowledge level at integrated healthcare center Debong Tengah sub-district.

Knowledge is a result of knowing from sensing particular things^[20]. Real media can be used in the learning process optimally^[21]. It is based on Edgar Dale's cone of experience described that the more concrete we learn teaching materials, the more experience we get. Training is a particular way to give knowledge and specific skill or helping someone to fix some deficiencies in the performance^[22]. The intervention in this research was conducted by applying a demonstration method suitable to Edgar Dale's cone of experience; direct media like real objects can increase knowledge by 90%. It is a significant improvement in the respondents' knowledge before and after being given the training.

The demonstration method has advantages like making the students more active in the learning process; in this case, they directly pay attention to material explained by the teacher so that they can

distinguish between theory and the actual situation. The disadvantage of the method is less effective because it needs thorough preparation for the successful process and more creativity in conveying the materials^[23]. Thus, the method is suitable to be used for someone who wants to increase their psychomotor. It is because the method is performed clearly and concisely. The output is that someone improves the knowledge, including three stages; knowledge or cognitive, skill or psychomotor, and attitude or affective^[24].

Table 3. The effect of Choking First Aid Training for Toddlers towards Mothers' Knowledge Level

	Pretest	Post-test	P-value	Z
n	39	39	0.0001	-5.460
Mean	65.26	96.54		
Median	66	100		
Modus	66	100		
SD	13.741	8.672		
Min	33	60		
Max	93	100		
Sum	2545	3765		

Table 3 describes that the average score of the respondent before got the training is 65.26; after being given the training, the score increases to 96.54. It means that the average score improved as much as 31.28. The result of the Wilcoxon test shows that $p\text{-value } 0.0001 < 0.05$, meaning that H_0 was rejected and H_a was accepted. Thus, there was an effect from the training of choking first aid for toddlers towards the mothers' knowledge level at integrated healthcare center.

The research result on the effect of first aid training on the knowledge level of the tenth-grade students was that the Wilcoxon test showed a $p\text{-value}$ of 0.0001, so that H_0 was rejected; there was a positive effect on giving the training. Knowledge relates to education; the higher the education, the more knowledge they get. Training is in the education process to increase a person's knowledge by joining specific training^[25].

The other research result on the effect of Basic Life Support (BLS)

training towards knowledge for the eleventh-grade students using the Wilcoxon test described a $p\text{-value}$ of 0.001 that was less than 0.05. It can be concluded that the hypothesis was accepted; there was an effect of BLS training towards the knowledge of the eleventh-grade students. Mass media exposure was also a source of information for the students to increase their knowledge of BLS^[26].

The authors convey that training has much influence on someone's knowledge because, with the training, someone gets more information, one of the most factors influencing the change in someone's knowledge. Moreover, an exemplary method for training is demonstration. The respondents can directly see and know of how the steps to do choking first aid well. Therefore, the training can increase someone's knowledge and psychomotor.

4. Conclusion

The research showed an effect from the training of choking first aid for toddlers towards mothers' knowledge level at Integrated Healthcare Center, Debong Tengah Sub-district.

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