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The relationship between mothers' knowledge and experience and their skills in providing first aid for choking

Kismiasih Adethia*, Sri Dewi Hayati, Nurazizah, Lisa Putri Utami Damanik,
Diah Pitaloka, Sri Rezeki, Safira Sarnima

Mitra Husada Medan College of Health Sciences

Corresponding author: *Email: kismiasihaditya@mitrahusada.ac.id

Abstract

Background: Choking is a medical emergency caused by airway obstruction by a foreign object that can potentially cause instant death, especially in young children. World Health Organization (WHO) data records thousands of cases of choking in children under three years of age each year, with food and foreign objects being the main causes. In Indonesia, choking contributes significantly to infant mortality, particularly during breastfeeding. A limited cough reflex and a narrow airway increase the risk of fatality. Successful treatment depends heavily on the speed and accuracy of first aid provided by those closest to the child, especially the mother.

Purpose: To analyze the relationship between the level of knowledge and experience of mothers with their skills in providing first aid in cases of choking.

Method: This study used an analytical design with a cross-sectional approach. Subjects were mothers of young children in Bangun Rejo Village. Data were collected through a questionnaire to measure knowledge and experience, as well as observation sheets for first aid skills related to choking. Data were analyzed statistically to assess the relationship between variables.

Results: The study results showed a significant relationship between mothers' knowledge and experience and their first aid skills in choking. Mothers with greater knowledge and experience tended to have more adequate skills.

Conclusion: Mothers' knowledge and experience play a crucial role in improving first aid skills in choking cases. Basic Life Support education and training need to be improved to prevent child deaths due to airway obstruction at the household level.

Keywords: Choking; First Aid; Maternal Experience; Maternal Knowledge.

INTRODUCTION

Airway obstruction due to foreign bodies, or clinically known as choking, occurs when external material, either organic or inorganic, blocks the upper respiratory tract and induces acute respiratory dysfunction. This condition is classified as a critical medical emergency that requires immediate intervention to mitigate the risk of fatality or sudden death (Sianipar, Situmorang, Barus, Tarigan, Pakpahan, & Hutagaol, 2024). According to a World Health Organization (WHO) report, the prevalence of choking incidents in children under

three years of age reached 17.537 cases, with the majority categorized as high-risk. Etiological analysis showed that food consumption was the dominant trigger at 59.5%, followed by foreign body aspiration at 31.4%, while the remaining 9.1% of cases were not specifically identified (Rahmawati & Suryani, 2019). The incidence of choking is a significant determinant that triggers the escalation of morbidity and mortality in the pediatric population, especially in children under three years of age. According to WHO data 2011 17.537 cases of airway obstruction were

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recorded, with the highest prevalence found in the 12-36 month old age range. Furthermore, a 2013 report indicated the urgency of this condition, with an average of 34 pediatric patients requiring emergency medical intervention daily due to foreign body aspiration (Saputra, 2022). Meanwhile, in Indonesia, approximately 10% of the 430 infant deaths were reported to be caused by choking during breastfeeding (Adethia, Utami, Pitaloka, Erviani, & Mursila, 2025).

In Indonesia, specific data on the incidence of choking remains a challenge in the national health literature. High mortality in pediatrics is caused by functional limitations, namely the inability to generate sufficient expiratory pressure through coughing to relieve obstruction. Anatomically, small airway diameters and suboptimal chewing ability increase the risk of aspiration. These risk factors are significantly escalated in children with a history of neurological disorders, developmental delays, or brain trauma that disrupts sensorimotor integrity during swallowing (Ananda & Budi, 2025; Tanujiarso, 2022).

Parenting patterns that allow active distractions during mealtimes, such as talking and playing, significantly compromise a child's safe swallowing mechanisms. In addition to behavioral factors during mealtimes, a lack of supervision regarding a child's access to microscopic materials or small objects also contributes to choking incidents (Natasy, 2019). Therefore, education regarding emergency response protocols based on medical knowledge is essential (Hanifah & Suartini, 2025). Individual

preparedness and skills in responding to emergency situations are key elements in mitigating the risk of death due to airway obstruction (Sipayung & Purba, 2021).

RESEARCH METHOD

This study used a quantitative correlational design using a cross-sectional approach. The aim of this study was to analyze the relationship between the independent variables (mothers' knowledge and experience) and the dependent variable (first aid skills for choking). This study was conducted in Bangun Rejo Village, Tanjung District, Deli Serdang Regency, from February to June 2025.

The population in this study was all 128 mothers with children aged 1-5 years in Bangun Rejo Village in 2025. The sampling technique used was purposive random sampling. If the number of respondents exceeded 100, the sampling rate was 10%-15% or 10%-25% (Arikunto, 2002). Therefore, the sample size was 32 respondents (25% of the total population).

Questionnaire: Used to measure mothers' knowledge level (cognitive domain) and subjective experience. Observation Sheet/SOP: Used as a measuring tool to assess mothers' practical skills in performing first aid maneuvers. Data were processed through editing, entry, and tabulation. Bivariate analysis uses the Chi-Square statistical test with a 95% confidence level (p value = 0.05) to determine whether there is a significant relationship between variables.

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RESEARCH RESULTS

Table The Relationship Between Mother's Knowledge and Mother's Experience Skills in Performing First Aid for Choking (N=30)

Variable	Skills		P value
	Unskilled (n=16)	Skilled (n=14)	
Knowledge (n/%)			
Not Good	1/6.3	1/7.1	0.000
Enough	8/50.0	9/64.3	
Good	7/43.7	4/28.6	
Experience (n/%)			
Yes	13/81.3	5/36.0	0.000
No	3/18.7	9/64.0	

The results of the statistical test using the chi-square test obtained a p-value of $0.000 < 0.05$, which means that there is a relationship between maternal knowledge and skills in performing first aid for choking. Based on the results of statistical tests using the chi-square test, the p-value was obtained: $0.000 < 0.05$, which means that there is a relationship between the mother's experience and the skills to provide first aid for choking.

DISCUSSION

Based on the results of statistical tests using the chi-square test, a p-value of $0.000 < 0.05$ was obtained for knowledge and experience, which means there is a relationship between maternal knowledge and skills in performing first aid for choking in Bangun Rejo Village, Tanjung District, Deli Serdang Regency in 2025.

Competence in managing choking cases is highly dependent on maternal health literacy. Knowledge acts as a behavioral catalyst, processing information into deeper understanding and stimulating preventive motivation (Maria & Wardhani 2023). Theoretically, a person's clinical behavior is directly proportional to the cognitive memory formed during the learning phase. Expanding the spectrum of knowledge has been shown to induce stable behavioral changes, thereby increasing readiness to perform appropriate medical interventions (Lidya, Saraswati, & Laksmi, 2025; Do 2022).

The results of this study align with previous research that found a relationship between knowledge and choking management, using a cross-sectional method. The population in this study was 50 mothers with young children registered at the Tanjung Raya sub-district community health center. There was a significant relationship between maternal

knowledge and choking management, with a p-value of 0.000 (Siahaan 2019).

The results of this study validate theory regarding the relationship between practical experience and cognitive level. Respondents with a background in first aid training had a more progressive level of understanding. Active participation in educational activities, such as seminars, serves as a catalyst in broadening knowledge horizons through a continuous process of information transfer (Ilham 2022). This aligns with Mubarak's theory, which positions information as a crucial instrument in the formation of comprehensive cognition. Functional experience gained through environmental interactions creates strong memory retention and emotional impressions, which systematically induce the formation of positive dispositions or attitudes in daily behavior (Triwidiyanti, 2023).

A mother's adequate and adequate knowledge is a key factor in someone performing first aid for choking (Abilowo, Yulia, Lubis, & Aini, 2024). Knowledge, including adequate behavior in receiving information, can influence a mother's knowledge. Adequate knowledge will influence motivation to seek information. A person's actions are influenced by their behavior and knowledge. As information stored in

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memory, knowledge is acquired through a series of information processing processes. Broader knowledge will influence behavior to change or persist (Triwidiyanti, 2023).

First aid aims to reduce or even prevent the severity of injuries before the victim receives further treatment at a health facility. Initial action in emergency situations is taken to save lives, prevent the victim's condition from worsening, and accelerate the recovery process (Tyas, 2022). First aid can be administered by anyone, including lay people, but in reality, many lay people still do not understand how to provide proper first aid, especially regarding moving and handling victims (Kase, Prastiwi, & Sutriningsih, 2018). Each person's experience of an object can vary because experience is subjective, influenced by the contents of their memory. What enters the senses and is noticed is stored in memory and used as a reference when responding to new things (Oktorina, Wahyuni, & Harahap, 2019).

Based on the researchers' assumptions, knowledge is closely related to experience, as individuals with broader experience tend to have a better understanding than those without. A person typically takes action based on their experience. Experienced individuals are more confident, less hesitant, and less afraid when performing first aid because their actions are in accordance with familiar procedures or regulations (Mansur, 2022).

CONCLUSION

While most mothers had sufficient knowledge, a proportion of mothers had poor and good knowledge in administering first aid for choking. The majority of respondents had no experience in handling choking cases, and more than half of the mothers were classified as unskilled in administering first aid for choking. This condition indicates that although some mothers had basic knowledge, limited practical experience impacted their low choking management skills. Therefore, increasing knowledge accompanied by practical training and first aid simulations is essential to improve mothers' skills in handling choking cases quickly and appropriately, in order to prevent the risk of serious complications and death in children.

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