



**MOM'S KNOWLEDGE AND PRACTICE ON PREVENTION PNEUMONIA IN TODDLERS**

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**ABSTRACT**

Children under five must get protection to prevent the occurrence of pneumonia which can result in impaired growth and development or can even result in death Objective: Therefore, mother's knowledge must be increased for the prevention of pneumonia Method: The research design used was a quasi-experimental approach with a one-group pretest-posttest design approach on 38 mothers of children under five. The sample technique used is probability sampling using simple random sampling technique. The research instrument used a questionnaire with 22 knowledge questions with Cronbach's absence (0.844) and action (0.826). Data analysis using paired t-test. Results: The results of statistical tests showed that knowledge (p-value = 0, 000) and action (p-value = 002). Conclusions It can be concluded that there is an average difference between knowledge and practice of mothers under five before and after being given material on prevention of pneumonia.

**Keywords:** knowledge; practice; prevention of pneumonia

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**INTRODUCTION**

Pneumonia is the most common disease affecting infants and children globally (Kasundriya et al., 2020), and pneumonia remains the leading cause of morbidity and mortality in children (Beletew et al., 2020). The most deaths in children under five in developing countries, in 2016, 880,000 children in the world died of pneumonia. The incidence of pneumonia in Indonesia is also quite high, there are 503,738 children under five with pneumonia and 16,819 of whom are diagnosed with severe pneumonia (Ihtasya, Setyoningrum and Kusumaningrum, 2021). according to World Health Organization, 2019, Indonesia ranks the ninth highest mortality rate due to pneumonia in children under five as much as 32 per 1000 live births, this shows that 2-3 children die every hour due to pneumonia.

Pneumonia in children under five in Indonesia in 2017 reached 447,431 cases (46.34%) and caused a mortality rate of 1,351 children under five. (Ministry of Health RI, 2018). South Sumatra is a province on the island of Sumatra with 12,097 cases of pneumonia (Ministry of Health RI, 2019), and the city of Palembang the number of pneumonia cases was 3,804 (Palembang City Health Office, 2020).

Pneumonia in childhood can cause morbidity and chronic disease. At first pneumonia can interfere with lung health and then there will be a decrease in lung function. Long-term risks after childhood pneumonia are categorized as chronic respiratory sequelae such as restrictive

lung disease, obstructive pulmonary disorders, bronchiectasis, chronic bronchitis, asthma, and abnormal lung function.(Roux and Zar, 2017).

In addition, a large number of children suffering from pneumonia cannot access health services properly in a timely manner, because mothers cannot identify the seriousness of pneumonia, and child mortality can be minimized by identifying signs and symptoms of pneumonia by mothers.(Akand et al., 2020). Therefore, parents, especially mothers, are considered as the main caregivers of a child, it is important to have knowledge about pneumonia, its signs and symptoms(Gaikwad, Jacob and Nair, 2020). The most important factor that increases a child's risk of developing pneumonia is knowledge and action about pneumonia prevention(Rizqa Wahyu handayani, 2016). This study was to determine the effect of health education regarding the prevention of pneumonia on the knowledge of mothers under five.

## **METHOD**

This research is a quasi-experimental research with a one group pre-test-post-test design approach. A total of 38 respondents of mothers under five in the working area of the Gandus Public Health Center, Palembang City, were taken using a simple random sampling technique. Respondents were mothers of children under five with inclusion criteria, namely having babies aged 2 months to 5 years, and exclusion criteria were mothers who were not willing to participate in the study or were unable to read and write. This study only consisted of 1 intervention group who were given health education through lectures and leaflets. Respondents who did not fill out the questionnaire completely were considered to have dropped out. The questionnaire consists of two parts, namely demographic data, knowledge and actions totaling 22 questions with cronbach alpha knowledge (0.844), and action (0.826). Knowledge of 12 items with several answer choices. The most correct answer is given a score of 1, and the wrong answer is given a score. Action with a total of 10 questions using a Likert scale with a score of 10-40. Each answer associated with the statement or action used was never given a score of 1, sometimes given a score of 2, often given a score of 3 and always given a score of 4 for favorable questions. For unfavorable questions, the opposite applies. The study was conducted from July to August 2021. The data obtained were analyzed using univariate analysis for data on age, education and occupation characteristics described by proportion measures, and bivariate analysis using paired t-test. The most correct answer is given a score of 1, and the wrong answer is given a score. Action with a total of 10 questions using a Likert scale with a score of 10-40. Each answer associated with the statement or action used was never given a score of 1, sometimes given a score of 2, often given a score of 3 and always given a score of 4 for favorable questions. For unfavorable questions, the opposite applies.

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**RESULTS**

Table 1 shows the number of respondents in this study amounted to 38 people. Almost all respondents are young adults (18-40 years old) 35 people (92.1%). Most of the respondents with high school education amounted to 25 people (65.8%) and almost all of the respondents did not work/IRT totaled 34 people (89.5)

Table 1.  
Respondent characteristics (n= 38)

Respondent characteristics	f	%
Age		
Young Adults (18-40 years)	35	92.1
Old Adult (>40 years old)	3	7.9
Education		
SD	0	0
junior high school	12	31.6
senior High School	25	65.8
PT	1	2.6
Work		
IRT	34	89.5
Farm workers	2	5.3
Trade	1	2.6
Private	1	2.6
PNS/ABRI	0	0

Table 2 shows that the value of Sig (2-tailed) is  $0.000 < 0.05$ , so it can be concluded that there is a difference between the knowledge and actions of mothers before and after being given health education about preventing pneumonia in children under five.

Table 2.  
Paired t-test results of knowledge and practice of pneumonia prevention (n=38)

Variable	mean	t	p	df
Pre-test and Post-Test Knowledge of Pneumonia Prevention	-3,474	-25,807	0.000	37
Pre-test and Post-Test Pneumonia Prevention Measures	10,737	21.478	0.000	37

## **DISCUSSION**

Knowledge is the result of knowing from someone after sensing a certain object (Maulana, 2013). according to(Ikromah, Asmaningrum and Sulistiyorini, 2015)factors that affect human knowledge, including age, education, occupation, experience and information. When viewed from the results of the respondent's pre-test knowledge questionnaire on the question of risk factors that cause pneumonia, as many as 81.5% of respondents answered incorrectly. Another question about environmental conditions that can cause pneumonia who answered incorrectly was 60.4%.

Pneumonia prevention is an action taken by mothers to avoid pneumonia. Efforts are being made to increase maternal awareness and knowledge of things that can increase the risk factors for pneumonia(Khairuddin, 2019). After being given health education, the average knowledge increased. according to(Alligood, 2017)Health education will provide changes in a person's behavior including changes in cognitive terms.

Health education in this study can increase the average knowledge of mothers about preventing pneumonia in children under five. Judging from the post test questionnaire knowledge related to understanding, causes, symptoms and risk factors an increase of 100% of respondents answered correctly, so that all respondents had good knowledge categories. An increase in knowledge is an indicator of the success of health education(Soekidjo Notoatmodjo, 2012). Health education can help participants combine old knowledge with new knowledge so that they can increase their knowledge(Winancy, Ardini S. Raksanagara, 2015) Knowledge can encourage someone to try to get more information about something that is considered necessary to understand or is considered important (Andarias et al, 2018). Such knowledge encourages parents to develop attitudes that lead to action as a result or outcome of knowledge about pneumonia prevention.

Prevention of pneumonia is very important because of the high incidence of pneumonia in children, especially in toddlers. Parents, especially mothers, play an important role in preventing pneumonia by avoiding risk factors, especially cigarette smoke and dust, ensuring a clean environment and avoiding any of the other risk factors.(Manuela et al., 2017). The mother's actions in preventing risk factors that can cause pneumonia are maintaining good nutrition, complete basic immunization, preventing and limiting toddlers' contact with ARI sufferers, keeping children away from smoke, dust, and other substances that interfere with breathing.(Karim, Muhit and Khandaker, 2017), and hand washing is essential in reducing the spread of pneumonia-causing organisms by over 50% (Abolwafa and Mohamed, 2017).

The results showed that the average of the actions after health education had increased. Based on the results of the pre-test questionnaire analysis related to the statement items answered with the lowest value by the respondents, the statement was counting the child's breathing using a watch that has a second hand for 1 minute (60 seconds). This shows that respondents sometimes do follow-up to detect pneumonia by counting breaths. After health education and training on counting children's breaths were carried out, the respondent's actions became positive towards preventing pneumonia in toddlers. Health education is a solution in increasing mother's knowledge in changing behavior in preventing pneumonia(Tunny et al., 2020). Health education is also a conscious and planned effort combined with learning experiences to increase one's health knowledge(Green, 1991).

## **CONCLUSION**

The results of this study indicate that there is a difference in the average knowledge and actions of mothers before and after being given health education about pneumonia prevention. Health education is a medium to get a change in an individual, because by getting information, knowledge will increase, this will certainly affect the mother's actions in preventing pneumonia in toddlers.

## **REFERENCES**

- Abolwafa, NF and Mohamed, AH (2017) 'Effect of Educational Program on Mothers Knowledge about Prevention of Pneumonia for their Children under Five Years', 6(5), pp. 5–12. doi: 10.9790/1959-0605010512.
- Akand, N. et al. (2020) 'Mothers Knowledge Related To Preventive Measure of Pneumonia in Mothers Knowledge Related To Preventive Measure of Pneumonia in Hospitalized Children Under 5 Years Age : A Tertiary Care Center Experience', IOSR Journal of Nursing and Health Science (IOSR-JNHS), 9 (July), pp. 5–12. doi: 10.9790/1959-0902040612.
- Alligood, MR (2017) 'Nursing Theorists and Their Work', in. Singapore: Elsevier Ltd.
- Andarias, M., Darwis, & H. (2018) 'A description of the knowledge of parents and the family environment with the incidence of ARI in the Batua Health Center in Makassar City.', Scientific Journal of Health Diagnosis, 12(6), p. 630–634.
- Beletew, B. et al. (2020) 'Prevalence of pneumonia and its associated factors among under-five children in East Africa: a systematic review and meta-analysis', BMC Pediatrics. BMC Pediatrics, pp. 1–13. doi: <https://doi.org/10.1186/s12887-020-02083-z>.
- Palembang City Health Office (2020) Palembang City Health Office Palembang City Health.
- Gaikwad, V., Jacob, JE and Nair, LS (2020) "A study to assess the knowledge regarding pneumonia among parents of under five children in selected hospitals of Pune city.", European Journal of Molecular & Clinical Medicine, 7(11), pp. 6150–6157.
- Green, LW (1991) 'Health Promotion Planning an Education and Environmental Approach.', in. New York: Mayfield.
- Ihtasya, S., Setyoningrum, RA and Kusumaningrum, D. (2021) 'Prevalence of Pneumonia Severity in Children under 5 Years Old at Primary Health Care of Tambakrejo, Surabaya', Scientific Journal of Unair Medical Students, XII(1), pp. 26–28. doi:10.20473/juxta.V12I12021.26-28.
- Ikromah, JN, Asmaningrum, N. and Sulistiyorini, L. (2015) 'The Differences between Using Buzz Group Discussion Method on the Educational Level of Inmates on HIV/AIDS in the Class IIA Penitentiary in Jember Regency and Audiovisual Lectures to the Knowledge Level of Inmates', 3(1), pp. 82–88.
- Karim, T., Muhit, M. and Khandaker, G. (2017) 'Interventions to prevent respiratory diseases - Nutrition and the developing world', Pediatric Respiratory Reviews. Elsevier Ltd, 22, pp. 31–37. doi: 10.1016/j.prrv.2016.09.003.
- Kasundriya, SK et al. (2020) 'Incidence and Risk Factors for Severe Pneumonia in Children Hospitalized with Pneumonia in', international Journal of Environmental Research and

- Public Health, 17(13), pp. 1–16. doi: <https://doi.org/10.3390/ijerph17134637>.
- Indonesian Ministry of Health (2018) Basic Health Research 2018. Jakarta.
- Ministry of Health of the Republic of Indonesia (2019), Data and Information on Indonesia's Health Profile 2018.
- Khairuddin (2019) 'Mother's Unhealthy Behavior Is a Risk Factor for Pneumonia ARI in Toddlers', (February). doi:10.17977/jps.v2i3.4507.
- Manuela, A. et al. (2017) 'Designing and evaluating a health education session on respiratory infections addressed to caregivers of children under three years of age attending day-care centers in Porto, Portugal: A community-based intervention', 23(1), pp. 43–50. doi:10.1080/13814788.2016.1240777.
- Maulana, H. (2013) Health Promotion. Jakarta: EGC.
- Rizqa Wahyu handayani (2016) 'Several Risk Factors for Pneumonia in Toddlers', Diponegoro University Research Article.
- Roux, DM and Zar, HJ (2017) 'Community-acquired pneumonia in children a changing spectrum of disease'. *Pediatric Radiology*, pp. 1392–1398. doi:10.1007/s00247-017-3827-8.
- Soekidjo Notoatmodjo (2012) Health Research Methodology. Jakarta: Rineka Cipta.
- Tunny, IS et al. (2020) 'Effect of Health Education on Mothers' Knowledge in the Prevention of Acute Respiratory Infection in Toddlers in Waimital Village, Maluku Characteristics of Respondents', 15(2). doi: <http://dx.doi.org/10.20473/jn.v15i2.18968>.
- Winancy, Ardini S. Raksanagara, YF (2015) 'Comparison of the Application of Brainstorming and Buzz Group Methods on Increasing Knowledge of Pregnant Women's Husbands', *The Southeast Asian Journal of Midwifery* Vol., 1(1), pp. 1–9.
- World Health Organization (2019) Pneumonia. Available at: <http://www.who.int/news-room/factsheet/detail/pneumonia>.