



WALUYA THE INTERNATIONAL SCIENCE OF HEALTH JOURNAL

The Relationship between Exclusive Breastfeeding and the Incidence of Acute Respiratory Tract Infection in Children Under Five in Muna Regency Southeast Sulawesi Province

Yusnani, La Ode Saafi, Ratna Umi Nurlila

Mandala Waluya University, Indonesia

Correspondence : yusnanisudirman01@gmail.com

ARTICLE INFO

Article history

Received : March 26th, 2024

Revised : March 27th, 2024

Accepted : March 30th, 2024

Keywords

Acute Respiratory Infections,
Exclusive Breast Milk.

ABSTRACT

Introduction: Data obtained from the Muna District Health Service shows that there are still many toddlers affected by acute respiratory infections and each year this increases. In 2019 there were 3778 cases (23.7%), in 2020 there were 2500 cases (12.2%), while in 2021 there were 3868 cases (24.2%). The aim of this research is to analyze the relationship between giving exclusive breast milk and the incidence of acute respiratory infections in toddlers in Muna Regency, Southeast Sulawesi Province.

Method: This type of research is quantitative observational using a Cross Sectional Study design. This research was carried out in July 2022. The research population was all toddlers in Muna Regency, totaling 3868 people and a sample of 97 people obtained using proportional simple random sampling. Data were processed using the chi-square test, closeness test and phi test.

Result: The research results showed that the results of the chi-square test on the variable giving exclusive breast milk obtained a p value of 0.000. This shows that H_0 is rejected and H_a is accepted, meaning that there is a moderate relationship between exclusive breastfeeding and the event Acute respiratory infections among toddlers in Muna Regency, Southeast Sulawesi Province.

Conclusion: There is a connection between giving exclusive breast milk and the incident Acute respiratory infections among toddlers in Muna Regency, Southeast Sulawesi Province. It is hoped that mothers can provide knowledge about the factors related to the occurrence of acute respiratory infections in toddlers.

Introduction

Acute respiratory infection is one of the health problems that exists in developing and developed countries. This is due to the still high morbidity

and mortality rates due to Acute respiratory infections.^[1]

Acute Respiratory Tract Infection is an acute infection that can spread to parts of the respiratory

tract, including the appendages (sinuses, middle ear cavity, pleura), from the nose to the alveoli. According to the World Health Organization, infectious agents whose symptoms persist within hours to days can cause acute respiratory tract infections. Acute Respiratory Infections can be transmitted through saliva, through respiratory air containing bacteria and inhaled through the respiratory tract of healthy people, and through sneezing. The cause of Acute Respiratory Tract Infections, namely viruses, is common in many age groups, but this infection develops into pneumonia, often occurring in children in conditions of nutritional deficiencies and unhealthy environmental conditions.^[2]

Acute Respiratory Infection is a respiratory disease that often occurs and is still underestimated by Indonesian society. If not managed properly, acute respiratory infections can cause complications, for example lung infections, endometrial infections, decreased consciousness, respiratory failure, and even death in toddlers who are immunocompromised.^[3]

Basic health research data for 2018 shows that in Indonesia the prevalence of acute respiratory tract infections according to the diagnosis of health workers in ten provinces with the disease Acute respiratory infections, the highest are Papua (10.5%), Bengkulu (8.9%), West Papua (7.5%), East Nusa Tenggara (7.3%), Central Kalimantan (6.2%) East Java (6.0 %), Maluku (5.6%), Banten (5.3%), West Java (4.7%), Central Java (4.6%). There is no difference between men and women for sufferers of Acute Respiratory Tract Infections.^[4]

Sufferers of acute respiratory infections in toddlers in Southeast Sulawesi from 2016 to 2017 were 31,589 cases (IR 0.03), 133,791 cases (IR 0.06), then again ARI sufferers in toddlers in Kendari City from 2017 to 2018, individually. 41,261 cases (IR0.16) and 44,479 cases (IR 0.17).^[5]

Data obtained from the Muna District Health Service shows that there are still many toddlers affected by acute respiratory infections and each

year this increases. In 2019 there were 3778 cases (23.7%), in 2020 there were 2500 cases (12.2%), while in 2021 there were 3868 cases (24.2%).

Seeing the above phenomenon, researchers are interested in conducting research on "Giving Relationships Breast milk Exclusive with events Acute respiratory infection among toddlers in Muna Regency, Southeast Sulawesi Province."

Method

This type of research is quantitative observational using a Cross Sectional Study design. This research was carried out in July 2022. The research population was all toddlers in Muna Regency, totaling 3868 people and a sample of 97 people obtained using proportional simple random sampling. Data were processed using the chi-square test, closeness test and phi test.

Result

Table 1 shows that of the 97 respondents, there were 56 respondents (57.7%) whose toddlers were not given food Breast milk exclusively and there were 41 respondents (42.3%) whose toddlers were exclusively breastfed.

Table 2 shows that of the 56 respondents whose toddlers were not given exclusive breast milk, there were 41 respondents (73.2%) who suffered from it and 15 respondents (26.8%) who did not suffer from ARI. Then, of the 41 respondents whose toddlers were exclusively breastfed, there were 10 respondents (24.4%) who suffered from acute respiratory infections and 31 respondents (75.6%) did not suffer from acute respiratory infections. The results of statistical tests obtained a calculated chi square X^2 value = 20,714 > X^2 table value = 3.841 and Phi (ϕ) = 0.483. This shows that H_0 is rejected and H_a is accepted, meaning that there is a relationship between giving Breast milk Exclusive to the incidence of Acute Respiratory Tract Infections in Toddlers in Muna Regency, Southeast Sulawesi Province.

Table 1
Distribution of Respondents According to Exclusive Breast Milk Provision in Muna Regency, Southeast Sulawesi Province

Giving Breastmilk Exclusive	n	%
Not exclusive	56	57.7
Exclusive	41	42.3
Amount	97	100.0

Table 2
Distribution of exclusive breastfeeding based on the incidence of Acute Respiratory Tract Infections in toddlers in Muna Regency, Southeast Sulawesi Province

Exclusive breastfeeding	Incidence of Acute Respiratory Tract Infections				Amount	
	Suffering from Acute Respiratory Infection		Do not suffer from acute respiratory infections			
	n	%	n	%	n	%
Not exclusive	41	73.2	15	26.8	56	100.0
Exclusive	10	24.4	31	75.6	41	100.0
Amount	51	52.6	46	47.4	97	100.0

Discussion

Exclusive breast milk is giving only breast milk without giving other food and drinks to the baby from birth to 6 months, except medicine and vitamins. However, this does not mean that after giving exclusive breast milk, breastfeeding is stopped, but it is still given to the baby until the baby is 2 years old.^[6]

Univariate results showed that of the 97 respondents, there were 56 respondents (57.7%) whose toddlers were not given exclusive breast milk and there were 41 respondents (42.3%) have toddlers who are given exclusive breast milk. Respondents who have toddlers are not given exclusive breast milk due to several factors from the mother, such as insufficient breast milk production, nipples that are not prominent, the mother does not understand the benefits of exclusive breast milk and, the mother has been sick while giving exclusive breast milk. These are the reasons why babies are not given exclusive

breast milk and are given additional food, especially formula milk.

Hegar and Sahetapy stated that one of the unique contents of breast milk is oligosaccharides which will create an acidic atmosphere in the digestive tract. This acidic atmosphere functions as a signal for digestive tract defense, namely Sig-A (Secretory Immunoglobulin A) which is also found in breast milk itself. Sig-A can bind pathogenic microbes, prevent their attachment to enterocyte cells in the intestine and prevent inflammatory immune reactions so that diarrhea does not occur.^[7]

Bivariate results show that still there were 15 respondents (26.8%) who having toddlers are not given exclusive breast milk however toddlers don't suffer Acute respiratory infections. This is caused by respondents always keeping their house clean so that bacteria cause it Acute respiratory infections can be minimized. Apart from that, family members adopt a clean and healthy lifestyle.

Bivariate results also show there is 10 respondents (24.4%) which having toddlers are given exclusive breast milk however toddlers suffer Acute respiratory infections. This is caused by several other factors, such as respondents not keeping the house clean so that there is a lot of dirt and dust in the house which can cause disease Acute respiratory infections. Apart from that, respondents also have less income or income, as a result, toddlers eat irregularly and do not contain balanced nutrition.

Breast milk is really needed by babies, especially at the beginning of life, the formation of immunity in babies aged 0-6 months is not yet perfect. Breast milk is a food for babies that is very useful and most perfect compared to formula milk or other breast milk complementary foods. Mother's milk contains many ingredients that babies need, such as colostrum is a golden liquid, which is a protective fluid rich in anti-infective substances and high in protein which is released on the first and second days immediately after giving birth. The content of anti-infective substances and protein is 10-17 times greater than mature breast milk. These substances help babies to protect themselves from diseases including Acute respiratory infections.^[8]

The statistical test results obtained a calculated chi square value $X^2_{count} = 20,714 > X^2_{table} = 3.841$ and $\Phi (\phi) = 0.483$. This shows that H_0 is rejected and H_a is accepted, meaning that there is a moderate relationship between giving exclusive breast milk and the incident Acute respiratory infections among toddlers in Muna Regency, Southeast Sulawesi Province.

A study in India showed that children who did not receive exclusive breast milk had a greater risk of getting it Acute respiratory infections.^[9] The results of the linear regression statistical test show that there is a significant relationship between the duration of exclusive breastfeeding and the frequency of occurrence Acute respiratory infections, the longer the exclusive breastfeeding is given, the frequency of occurrence Acute respiratory infections In the last 1 month in children aged 1-2 years it will get smaller.^[10]

The results of this study are in line with other research that there is a significant relationship between giving exclusive breast milk and the incidence Acute respiratory infections ($p=0.044$, $Cc=0.276$). Based on the contingency coefficient

value, a weak relationship was found between exclusive breast milk and incidence Acute respiratory infections.^[11]

Conclusion

There is a moderate relationship between giving exclusive breast milk and the incident Acute respiratory infection among toddlers in Muna Regency, Southeast Sulawesi Province. So it is hoped that it can provide information and input for the community regarding factors related to the incidence of acute respiratory infection in toddlers in Muna Regency.

Reference

1. Republic of Indonesia Ministry of Health. *Indonesia Health Profile 2020*.; 2021.
2. Ismah Z, Harahap N, Aurallia N, Pratiwi DA. Textbook of Infectious Disease Epidemiology. Published online 2021.
3. Violita F, Howay A, Mamoribo SN. Analysis of Risk Factors for Acute Respiratory Infections in Toddlers. *Community Res Epidemiol*. Published online 2021:45-53.
4. Riskesdas. Ministry's 2018 Riskesdas Main Results. *Ministry of Health of the Republic of Indonesia*. Published online 2018.
5. Ali P Bahjuri, Siahaan Renova Glorya Montesori, Solikha Dewi Amila, Wikanestri I. *Strengthening Basic Health Services at Community Health Centers*.; 2018.
6. Erfiyani RI. Factors Relating to Exclusive Breastfeeding Behavior in Pegirian Village, Semampir District, Surabaya City. *Med Technol Public Heal J*. 2020;4(1). doi:10.33086/mtphj.v4i1.702

7. Andammori F, Lipoeto NI, Yusrawati Y. Relationship between Blood Pressure of Term Pregnant Women and Birth Weight at Dr. Hospital. M. Djamil Padang.*J Andalas Health*. 2013;2(2):67. doi:10.25077/jka.v2i2.121
8. Rachmatullah R, Setyadi HA. Implementation of AHP and WP Methods in the Decision Support System for Selection of Toddler Formula Milk. *J Speed*. 2018;10(3):55-60. doi:10.36309/goi.v21i2.36
9. Arsin AA, Istiqamah SNA, Elisafitri R, et al. Correlational study of climate factors, mobility and the incidence of Dengue Hemorrhagic Fever in Kendari, Indonesia.*Enferm Clin*. 2020;30:280-284. doi:10.1016/j.enfcli.2020.06.064
10. Hasmariana H, Saafi LO, Tasnim T, Hariadhin Depu A. Experience and Training Relate to Performance Clean and Healthy Living Behavior in Cadre in the Working Area of Poasia Primary Health Care, Kendari City.*Indonesian J Heal Sci Res Dev*. 2021;3(1):143-148. doi:10.36566/ijhsrd/vol3.iss1/67
11. Yuditya DC, Mulyono H. The relationship between exclusive breast feeding and the incidence of Acute respiratory infections among in toddlers at the Balowerti Health Center, Kediri City for the period September 2018.*J Qual Women's Heal*. 2019;2(2):16-22. doi:10.30994/jqwh.v2i2.33