DOI: 10.36566/ijhsrd/Vol6.Iss2/239
https://ijhsrd.com/index.php/ijhsrd

Indonesian Journal Of Health Sciences Research and Development
e- ISSN: 2715-4718

Research Article

THE FACTORS INFLUENCING TO ACUTE RESPIRATORY TRACT INFECTIONS IN TODDLERS IN BESU VILLAGE KONAWE REGENCY

Fitri Yanti[1] , La Djabo Buton[2], Fitri[3]

[1-3]*Public Health Study Program, Mandala Waluya University, Southeast Sulawesi, Indonesia*

Corresponding Author :
Fitri Yanti,
Email: fitrililiyanti@gmail.com
Phone : +685342733542

ABSTRACT

Background: Acute Respiratory Infection (Acute Respiratory Infection) is the main cause of morbidity and mortality of infectious diseases in the world. This study aims to determine the factors associated with the incidence of Acute Respiratory Infection in toddlers in Besu Village, Morosi District, Konawe Regency. The type of research used is quantitative research with a Cross-Sectional Study design.
Methods: The population in this study was 52 toddlers, with a sample of 47 people. The sampling technique used simple random sampling. Data analysis used the Chi Square test.
Results: This study obtained variables of maternal knowledge (X2 count = 9.312; Phi = 0.489), exposure to cigarette smoke (X2 count = 6.365; Phi = 0.415), residential density (X2 count = 2.888), ventilation (X2 count = 8.263; Phi = 0.462), and distance from home to the highway (X2 count = 6.057; Phi = 0.404).
Conclusion: there is a relationship between maternal knowledge, exposure to cigarette smoke, ventilation, and the distance of the house to the highway with the occurrence of Acute Respiratory Infection in Besu Village and there is no relationship between residential density and the occurrence of Acute Respiratory Infection in Besu Village, Morosi District, Konawe Regency. Suggestions for the Morosi Health Center to provide intensive counseling about healthy homes and child-friendly areas free of cigarette smoke.

Keywords: Acute Respiratory Infection, knowledge, smoker, housing density, ventilation, distance

INTRODUCTION

Acute Respiratory Infection is the leading cause of morbidity and mortality of infectious diseases in the world. The mortality rate of Acute Respiratory Infection reaches 4.25 million each year in the world. Deaths due to Acute Respiratory Infection are more dominated by toddlers aged 1-4 years, namely ± 13 million toddlers in the world die each year. [1]

Based on data from the Indonesian Ministry of Health, in 2021 the number of cases of Acute Respiratory Infection Pneumonia in toddlers was 278,261 cases, then increased in 2022 to 386,274 cases. The Directorate General of Public Health, Ministry of Health of the Republic of Indonesia stated that the leading cause of death in toddlers aged 12-59 months in Indonesia in 2022 was Acute Respiratory Infection pneumonia at 12.5% .[2]

The Southeast Sulawesi Provincial Health Office explained that the prevalence of Acute Respiratory Infection in toddlers within a period of three years continued to increase, namely in 2020 the number of cases of Acute Respiratory Infection in toddlers was 30,208 cases with a prevalence of 12.20%, increasing in 2021 to 34,209 cases with a prevalence of 12.58%. In 2022, it continued to experience a significant increase of 48,617 cases with a prevalence of 16.09%. [3]

Based on data from the Konawe Regency Health Office, the prevalence of Acute Respiratory Infection cases in toddlers from 2020 to 2022 experienced a decrease in prevalence rates. However, in 2023 the prevalence rate of Acute Respiratory Infection in toddlers increased significantly, where 2,979 Acute Respiratory Infection cases were found in toddlers with a prevalence of 11.7% . [4]

Based on the Directory of Mining Companies of Southeast Sulawesi Province through data from the Central Statistics Agency, there are 7 sub-districts in Konawe Regency that have mining and industrial activities in them. Of all the sub-districts with mining and industrial activities, for 3 consecutive years, Morosi Sub-district has been the sub-district with the highest number of Acute Respiratory Infection cases. In 2020, there were 249 cases of Acute Respiratory Infection in Morosi Sub-district, in 2021 there were 243 cases, and in 2022, there were 289 cases of Acute Respiratory Infection.

The emergence of Acute Respiratory Infection is influenced by several risk factors. Risk factors associated with the occurrence of Acute Respiratory Infection are divided into intrinsic and extrinsic factors. Intrinsic factors that often cause Acute Respiratory Infection are gender, age, nutritional status, Low Birth Weight (LBW), provision of Breast Milk (ASI), immunization status, and provision of vitamins. While extrinsic factors that cause Acute Respiratory Infection are air pollution, home ventilation, residential density, cigarette smoke, use of fuel for cooking, the habit of not opening windows every day, use of mosquito coils in the house. In addition to intrinsic and extrinsic factors, other factors in this case the mother of the toddler also influence the occurrence of Acute Respiratory Infection in toddlers, such as the type of mother's education, the mother's age, and the mother's level of knowledge. [5]

The determination of the research location in Besu Village was motivated by the existence of cooperation between fostered villages, especially mining areas. With this research, it is hoped that it can be a source of reference information in implementing activities in Besu Village,

especially in reducing and preventing ISP incidents.

This study aims to address several key questions regarding the factors influencing the incidence of Acute Respiratory Infection in toddlers in Besu Village, Konawe Regency. The questions include: Is there a relationship between the mother's age, education level, and occupation with the incidence of Acute Respiratory Infection in toddlers? Furthermore, the study seeks to determine whether the distance from the house to the main road affects the risk of Acute Respiratory Infection in toddlers. Lastly, the research will explore whether the age and gender of the toddler play a role in the incidence of Acute Respiratory Infection.

The objective of this study is to analyze the relationship between various maternal factors, such as age, education level, and occupation, and the incidence of Acute Respiratory Infection in toddlers in Besu Village, Konawe Regency. Additionally, the study aims to evaluate the impact of the distance from the house to the main road on the risk of Acute Respiratory Infection and to understand the role of the toddler's age and gender in the occurrence of this illness. By examining these factors, the study hopes to provide recommendations for effective interventions to prevent Acute Respiratory Infection in toddlers. Based on the background above, the researcher is interested in conducting research with the title "Factors Related to the Incidence of Acute Respiratory Infection in Toddlers in Besu Village, Konawe Regency"

MATERIAL AND METHODS

This study uses a quantitative approach with a Cross Sectional Study design.[6] The design is conducted at a single point in time, where data on the dependent variable (incidence of ARI) and independent variables (knowledge, exposure to cigarette smoke, housing density, ventilation, and the distance of the house from the main road) are collected simultaneously. This allows the researcher to observe the relationships between the variables at the same time without manipulation or intervention.

The study was conducted from April to May 2024 in Besu Village, Morosi District. The population under study consists of all mothers with toddlers in the village, totaling 52 toddlers. The sample was determined using the Slovin formula, resulting in 47 respondents. The sampling technique used was simple random sampling, where every member of the population had an equal chance of being selected as a sample.

The data used in this study consisted of primary and secondary data. Primary data was collected through direct interviews using a questionnaire, while secondary data was obtained from the Puskesmas Morosi, the Health Office of Konawe Regency, and other sources. Data collection also included physical measurements, such as housing density, ventilation, and the distance of the house from the main road, using predetermined measuring instruments.

The data was processed through editing, coding, scoring, and tabulating to ensure that the collected data was valid and ready for analysis. Data analysis was performed univariately to describe each variable studied and bivariately to test the relationship between independent and dependent variables using the Chi Square test. If the Chi Square test results showed a significant relationship, a Phi coefficient test was conducted to measure the strength of the relationship between the variables.

The analyzed data was presented in the form of tables, graphs, and narratives to facilitate understanding and interpretation of the research results. Throughout the process,

the study adhered to research ethics, including informed consent, anonymity, and confidentiality, to ensure that respondents' rights were protected and the data obtained remained confidential.

Overall, this study aims to identify the factors that influence the incidence of ARI in toddlers in Besu Village, Morosi District, as well as the relationships between knowledge, exposure to cigarette smoke, housing density, ventilation, and the distance of the house from the main road in relation to the incidence of ARI.

RESULTS

Respondent's Characteristics

The frequency distribution based on respondent characteristics in Besu Village reveals diverse demographic details. The majority of respondents are mothers with toddlers, with a significant portion falling within specific age groups and educational backgrounds. The data shows variations in factors such as the level of knowledge about ARI, exposure to cigarette smoke, housing density, ventilation conditions, and the proximity of homes to main roads. These characteristics offer insight into the potential factors influencing the incidence of ARI among toddlers in the area, highlighting the need for targeted health interventions tailored to the community's specific conditions.

Table 1. Frequency Distribution Based on Respondent Characteristics

Respondent Characteristics	n	%
Mother Age Group		
21-25 Years	10	21.3
26-30 Years	16	34.0
31-35 Years	10	21.3
36-40 Years	11	23.4
Mother's Education		
SD	3	6.4
Junior high school	9	19.1
Senior high school	20	42.6
Diploma/S1	15	31.9
Mother's Job		
Self-employed	11	23.4
Housewife	36	76.6
Toddler Gender		
Man	26	55.3
Woman	21	44.7
Toddler Age Group		
12-22 Months	14	29.8
23-33 Months	14	29.8
34-44 Months	12	25.5
45-55 Months	7	14.9
Total	**47**	**100.0**

The age characteristics of the respondents in table 1 show illustrates that the factors of age, education, and maternal occupation, as well as the age and gender of toddlers, can be important elements in understanding the risks and incidence of Acute Respiratory Infection. Public health interventions can be focused on groups of mothers and toddlers with more vulnerable characteristics to reduce the incidence of Acute Respiratory Infection.

We can see from the research that of the 47 respondents the most age group was the 26-30 year age grup with 16 respondents (34.0%) and the least age group was 21-25 and 31-35 years old with 10 respondents (21.3%). Which means that the mother's age affects her experience and ability to take care of her child. Mothers in the age group of 21-

40 years are productive age who generally have more energy and attention in taking care of children. However, if there is limited information about children's health, the risk of Acute Respiratory Infection can increase, especially if exposure to risk factors such as cigarette smoke or air pollution is high.

The educational characteristics of the respondents showed that of the 47 respondents studied, the highest number of respondents were Senior High School educated, namely 20 respondents (42,6%) and the fewest respondents were those with high school education, namely SD education, namely 3 respondents (6.4%). Which means that maternal education plays an important role in knowledge about the prevention and treatment of Acute Respiratory Infection. Mothers with low education (primary and junior high school, 25.5% total) may have limited access to health information or lack understanding of the importance of hygiene and a healthy environment.

The characteristics of the respondents occupations show that of the 47 respondents studied, the most occupations are housewives, namely 36 respondents (76.6%) and the respondents with the self-employed, namely 11 respondents (23.4%). Which means that housewives (76.6%) usually spend more time at home, so attention to children is higher. However, exposure to household pollution, such as smoke from cooking using traditional fuels or poor ventilation, can be a risk factor for Acute Respiratory Infection. Self-employed mothers (23.4%), despite having limited time to supervise their children in person, may be better able to provide health facilities or a cleaner environment through additional income.

The gender characteristics of toddlers show that of the 47 respondents the male gender is 26 respondents (55.3%) more than the female gender, namely 21 respondents (44.7%). which means that male toddlers (55.3%) tend to have a slightly higher risk of Acute Respiratory Infection than women (44.7%). This can be attributed to biological differences, such as different respiratory tract sensitivity to irritation or infection. Gender can also affect a child's activity patterns that may be related to exposure to risky environments

The age characteristics of toddlers shows that of the 47 respondents, the largets age group for toddlers is 12-22 months and 23-33 months respectively 14 respondents (29.8%) and the least age group is 45-55 months namely 7 respondents (14.9%). which means that younger toddlers, especially in the 12-33 month group (59.6%), are more susceptible to Acute Respiratory Infection because their immune system is not fully developed. The risk of Acute Respiratory Infection decreases with age due to a more mature immune system and previous experience of infection that helps the body fight the disease. However, environmental factors are still important to consider, such as home cleanliness and air quality.

Table 2. Distribution Frequency Based On Factors Related To The Incidence Of Ispa Disease

Research Variables	N	%
Incidence of Acute Respiratory Infection in Toddlers		
Suffer	22	46.8
Not suffering	25	53.2
Mother's Knowledge		
Not enough	18	38.3
Enough	29	61.7
Cigarette Smoke Exposure		
Exposed	14	29.8
Not Exposed	33	70.2
Residential Density		
Not eligible	9	19.2
Qualify	38	80.9
Ventilation		
Not eligible	27	57.4
Qualify	20	42.6
Distance of House from Main Road		
Not eligible	31	66.0
Qualify	16	34.0
Total	**47**	**100.0**

Table 2 shows distribution frequency variable research . Based on history of Acute Respiratory Infection in toddlers, the majority toddler No own history Acute Respiratory Infection disease, namely as many as 25 people (53.2%), while toddlers who have history Acute Respiratory Infection disease as many as 22 people (46.8%). Based on knowledge mother , majority Respondent own sufficient knowledge as many as 29 people (61.7%), while Respondent with lack of knowledge as many as 18 people (38.3%). Based on exposure to cigarette smoke , the majority toddler No exposed to cigarette smoke as many as 33 people (70.2%), while toddlers exposed to cigarette smoke as many as 14 people (29.8%).

Table 2 shows variable density residential, majority density residence Respondent fulfil condition namely as many as 38 people (80.9%), while Respondent with density housing that is not fulfil condition as many as 9 people (19.2%). Based on ventilation , majority ventilation Respondent No fulfil condition namely as many as 27 people (57.4%), while Respondent with adequate ventilation conditions as many as 20 people (42.6%). Based on distance House to road raya, majority Respondent own distance House with road raya that is not fulfil conditions (< 250 meters) namely as many as 31 people (66.0%), while Respondent with distance House with road the highway that fills requirements (≥ 250 meters) as many as 16 people (34.0%).

Table 3. The Factors Relating To The Incidence Of Ispa Disease In Besu Village, Morosi District Besu Kecamatan Morosi In Besu Village, Morosi District, Konawe Regency

Variables Study	Incidence of Acute Respiratory Infection in toddlers						Results Statistical Test
	Suffer		No Suffering		Total		
	n	(%)	n	(%)	N	(%)	
Mother's Knowledge							
Not enough	14	77.8	4	22.2	18	100.0	X^2count = 9.312 X^2table = 3.841 *Phi* = 0.489
Enough	8	27.6	21	72.4	29	100.0	
Total	**22**	**46.8**	**25**	**53.2**	**47**	**100.0**	
Cigarette Smoke Exposure							
Exposed	11	78.6	3	21.4	14	100.0	X^2count = 6.365 X^2table = 3.841 *Phi* = 0.415
Not Exposed	11	33.3	22	66.7	33	100.0	
Total	**22**	**46.8**	**25**	**53.2**	**47**	**100.0**	
Density Residence							
Does not meet the Condition	7	77.8	2	22.2	9	100.0	X^2count = 2.888 X^2table = 3.841
Fulfil Condition	15	39.5	23	60.5	38	100.0	
Total	**22**	**46.8**	**25**	**53.2**	**47**	**100.0**	
Ventilation							
Does not meet the Condition	18	66.7	9	33.3	27	100.0	X^2count = 8.263 X^2table = 3.841 *Phi* = 0.462
Fulfil Condition	4	20.0	16	80.0	20	100.0	
Total	**22**	**46.8**	**25**	**53.2**	**47**	**100.0**	
Distance from House to Highway							
Does not meet the Condition	19	61.3	12	38.7	31	100.0	X^2count = 6.057 X^2table = 3.841 *Phi* = 0.404
Fulfil Condition	3	18.8	13	81.2	16	100.0	
Total	**22**	**46.8**	**25**	**53.2**	**47**	**100.0**	

Analysis connection knowledge Mother with The incidence Acute Respiratory Infection in toddlers in Besu Village, Morosi District, in Table 3 shows that from 18 respondents with lack of knowledge, there were 14 respondents (77.8%) who had toddler Once suffering from Acute Respiratory Infection and 4 respondents (22.2%) who had toddler No Once suffering from Acute Respiratory Infection. While from 29 respondents with sufficient knowledge, there were 8 respondents (27.6%) with toddler who ever suffering from Acute Respiratory Infection and 21 respondents (72.4%) with toddlers who don't who don't Once suffering from Acute Respiratory Infection. Based on statistical test results chi square obtained The calculated value of X2 = 9.312, with value of X 2 table = 3.841, then X 2 count > X 2 table which means H 0 rejected and H a accepted . This is show that there is connection between knowledge Mother with incidents of Acute Respiratory Infection in toddlers. From the results of the closeness test connection obtained mark phi = 0.489, which means that there is ongoing relationship.

Analysis connection exposure to cigarette smoke with The incidence of Acute Respiratory Infection in toddlers in Besu Village, Morosi District, table 3 shows that from 14 respondents with toddlers who were exposed to cigarette smoke , there were 11 respondents (78.6%) who had toddler Once suffering from Acute Respiratory Infection and 3 respondents (21.4%) who had toddler No Once suffering from Acute Respiratory Infection. While from 33 respondents with toddlers who don't exposed to cigarette smoke , there were 11 respondents (33.3%) with toddler who ever suffering from Acute Respiratory Infection and 22 respondents (66.7%) with toddlers who don't who don't Once suffering from Acute Respiratory

Infection. Based on statistical test results chi square obtained The calculated value of X2 = 6.365, with The value of X 2 table = 3.841, then X 2 count > X 2 table which means H 0 rejected and H a accepted. This is show that there is connection between exposure to cigarette smoke with incidents of Acute Respiratory Infection in toddlers. From the results of the closeness test connection obtained mark phi = 0.415, which means that there is ongoing relationship .

Analysis connection density residence with The incidence of Acute Respiratory Infection in toddlers in Besu Village, Morosi District, in Table 3 shows that from 9 respondents with density housing that is not fulfil conditions , there were 7 respondents (77.8%) who had toddler Once suffering from Acute Respiratory Infection and 2 respondents (22.2%) who had toddler No Once suffering from Acute Respiratory Infection. While from 38 respondents with density housing that meets conditions , there were 15 respondents (39.5%) with toddler who ever suffering from Acute Respiratory Infection and 23 respondents (60.5%) with toddlers who don't who don't Once suffering from Acute Respiratory Infection. Based on statistical test results known there is cell with mark expectations below 5, so the hypothesis test using the fisher exact test, it was obtained p-value = 0.063, with value α = 0.05, then p-value > α which means H 0 accepted and H a rejected. This is show that No there is connection between density residence with incidents of Acute Respiratory Infection in toddlers in Besu Village, Morosi District.

Analysis connection ventilation with The incidence of Acute Respiratory Infection in toddlers in Besu Village, Morosi District, in Table 3 shows that from 27 respondents with ventilation that is not fulfil conditions, there were 18 respondents (66%,7) who had toddler Once suffering from Acute Respiratory Infection and 9 respondents (33.3%) who had toddler No Once suffering from Acute Respiratory Infection. While from 20 respondents with adequate ventilation conditions, there were 4 respondents (20.0%) with toddler who ever suffering from Acute Respiratory Infection and 16 respondents (80.0%) with toddlers who don't who don't Once suffering from Acute Respiratory Infection. Based on statistical test results chi square obtained The calculated value of X2 = 8.263, with value of X 2 table = 3.841, then X 2 count > X 2 table which means H 0 rejected and H a accepted . This is show that there is connection between ventilation with incidents of Acute Respiratory Infection in toddlers . From the results of the closeness test connection obtained mark phi = 0.462, which means that there is ongoing relationship.

Analysis connection distance House with road raya with The incidence of Acute Respiratory Infection in toddlers in Besu Village, Morosi District, in Table 3 shows that from 31 respondents with distance House to road raya that is not fulfil conditions, there were 19 respondents (61.3%) who had toddler Once suffering from Acute Respiratory Infection and 12 respondents (38.7%) who had toddler No Once suffering from Acute Respiratory Infection. While from 16 respondents with distance House to road the highway that fills conditions , there were 3 respondents (18.8%) with toddler who ever suffering from Acute Respiratory Infection and 13 respondents (81.2%) with toddlers who don't who don't Once suffering from Acute Respiratory Infection. Based on statistical test results chi square obtained The calculated value of X2 = 6.057, with The value of X 2 table = 3.841, then X 2 count > X 2 table which means H 0 rejected and H a

accepted . This is show that there is connection between distance House to road raya with incidents of Acute Respiratory Infection in toddlers . From the results of the closeness test connection obtained mark phi = 0.462, which means that there is ongoing relationship

DISCUSSION

Risk Factor Knowledge Risk Factors and Incidence of Stunting in Toddlers

Knowledge is a collection of information obtained from experience or from birth that makes a person know something. Family income can be one of the factors that influences the incidence of stunting in toddlers. Poor family economic conditions can make parents unable to provide balanced nutrition for children.

Table 1 shows that more respondents who had sufficient knowledge experienced stunting (cases), namely 30 people (75%), compared to 14 people who did not experience stunting (controls). Meanwhile, respondents who had more or less knowledge did not experience stunting, namely 26 people (65%), compared to those who experienced stunting, namely 10 people (25%). Based on the results of research analysis, it is known that toddlers who come from families with low economic status are at risk of experiencing stunting. The economic status of parents as a risk factor for stunting is caused by the economic level which can influence the family's ability to meet the nutritional needs of toddlers, the choice of types of additional food and the timing of feeding as well as healthy living habits. High economic status makes a person choose and buy nutritious and varied food. On the other hand, low economic status is considered to have a dominant influence on the incidence of thinness and shortness (stunting) in children. This is because families with low economic status more often choose animal and vegetable side dishes at affordable or cheap prices according to their means. Vegetables that will be processed are often taken from vegetables available in paddy fields or fields with a limited variety of plants so that the daily menu served is simple and not varied. This condition causes food intake in toddlers to be less varied so that it can indirectly cause nutritional intake in toddlers to be less.[5]

Risk Factors for Exclusive Breastfeeding and Stunting in Toddlers

Breast milk is the only food that can meet the needs of babies up to 6 months. Breast milk contains carbohydrates, proteins, fats, vitamins, minerals, enzymes, growth hormones and immunoglobulins which are needed by children to support their growth, prevent morbidity and death. Table 2 shows that more respondents who were given exclusive breastfeeding experienced stunting (cases), namely 21 people (52.5%), compared to 11 people who did not experience stunting (controls) (27.5%). Meanwhile, more respondents who were not given exclusive breastfeeding did not experience stunting, namely 29 people (72.5%), compared to those who experienced stunting, namely 19 people (47.5%). Breastfeeding has several benefits, namely that it can increase children's intelligence because breast milk contains special nutrients and has a good composition which is very necessary for brain development in children. Another benefit is that it can increase affection because of the emotional bond and closeness between mother and child during the breastfeeding process. Apart from that, breast milk also has the benefit of meeting the baby's needs. Breast milk has contents that change as the child grows, so

that the child's nutritional intake can follow his growth.[7-8].

The results of this study state that a higher proportion of stunting occurs because children are not given exclusive breast milk. Children who are not exclusively breastfed have a risk of becoming stunted 6.54 times compared to children who are exclusively breastfed. Other research suggests that children who do not receive exclusive breast milk are 3.2 times more likely to suffer from malnutrition while the risk of children becoming stunted is 6.9 times if they do not receive exclusive breast milk. The factor causing the failure of exclusive breastfeeding in Penanggalan District is the community's habit of giving honey to newborn babies. It is assumed that children who often cry are because they are hungry, so the mother provides other foods such as starch water, strained porridge, and formula milk and family influences that do not support exclusive breastfeeding.[9-12]

Risk Factors for Environmental Sanitation and Stunting Incidents in Toddlers

Environmental sanitation has a dominant role in children's health and growth and development. Aspects of cleanliness, both personal and environmental, play an important role in causing disease. Poor environmental sanitation can increase the risk of stunting in toddlers because it can cause infectious diseases such as diarrhea and worms. These diseases can interfere with the digestive process and absorption of nutrients, which if they occur continuously can result in stunting.

Table 3 shows that respondents who had good environmental sanitation were more likely to experience stunting (cases), namely 20 people (50%), compared to 15 people who did not experience stunting (controls). Meanwhile, more respondents who had poor environmental sanitation did not experience stunting, namely 25 people (62.5%), compared to those who experienced stunting, namely 20 people (50%). Research Results Environmental sanitation can be a supporting factor for the development of infectious diseases, thus facilitating the emergence of infectious diseases, especially diarrhea and ARI. These two diseases are the two most common diseases suffered by children under five in developing countries. These two infectious diseases are also associated with growth retardation and high infant mortality rates.[13-19]

According to research results environmental sanitation is good sanitation which is an important element that supports human health. Sanitation is related to environmental health which influences the level of public health. Poor sanitation conditions will have a negative impact on many aspects of life, starting from decreasing the quality of the community's living environment, contamination of drinking water sources for the community, and the emergence of several diseases. Humans in their survival also need a house as a basic need that must be there from the time humans are born.[20-22]

Risk Factors Income and Stunting Incidents in Toddlers and Stunting Incidents in Toddlers

The amount of income earned or received by a household can describe the welfare of a society. Children from families with low economic status consume less food than children from families with better economic status. Thus, they also consume less energy and nutrients.

Table 4 shows that more respondents who had high incomes experienced stunting (cases), namely 23 people (57.5%),

compared to 14 people who did not experience stunting (controls) (35.0%). Meanwhile, more respondents who had low incomes did not experience stunting, namely 26 people (65%), compared to those who experienced stunting, namely 17 people (42.5%). income level also determines what type of food will be purchased with additional money. The higher the income, the greater the percentage of that income used to purchase various types of food. A sufficient income level means mothers have more freedom to choose and buy baby necessities such as beef, fish and fruit even though the prices on the market are quite expensive. However, on the other hand, mothers who do not have sufficient income will have difficulty providing good nutritional intake to their babies, where mothers only provide vegetables and side dishes with a menu that rarely varies, resulting in babies who are malnourished, even though the family income level is above the minimum wage, however, toddlers are still found. with stunting status.[23].

This research states that low family income is a risk factor for stunting in children aged 6-24 months. Children with low family income have a risk of stunting 8.5 times compared to children with high family income.[24]

CONCLUSION

The conclusion of This research is that There is continouos relationship between knowledge mother , exposure to cigarette smoke , ventilation and distance House to road raya with incidents of Acute Respiratory Infection in toddlers in Besu Village, Morosi District . There were no connection between density residence with incidents of Acute Respiratory Infection in toddlers in Besu Village, Morosi District .

It is expected party Morosi Health Center to provide counseling intensive importance House healthy and area child smoke free in more forms of information media can understood by the public (banners, posters, leaflets) or through figure community, integrated health post, cadres health environment , apparatus village about factors that can cause the occurrence of Acute Respiratory Infection so that public can behave Healthy in prevent the occurrence of Acute Respiratory Infection, especially in toddlers . For the community, to carry out pattern life clean and healthy, especially about cleanliness environment home, repair condition House fulfil condition health, as well as No smoking inside home . And for For measure other possible variables Can cause the occurrence of Acute Respiratory Infection in toddlers and do analysis multivariate for know the most influential factor to Acute Respiratory Infection incident

ACKNOWLEDGMENT

We would like to thank the Mandala Waluya Kendari Foundation for helping us in providing financial assistance so that this research runs smoothly and can be completed on time.

REFERENCES

1. McCollum, E.D., & Ginsburg, A.S. (2019). Outpatient Management of Children With World Health Organization Chest Indrawing Pneumonia: Implementation Risks and Proposed Solutions. Clinical Infectious Diseases: An Official Publication of the Infectious Diseases Society of America, 65, 1560–1564. https://doi.org/10.1093/cid/cix543
2. Ministry of Health of the Republic of Indonesia. (2023). Indonesian Health

Profile . Ministry of Health of the Republic of Indonesia.

3. Damayanti, SC, Rusminarni , S., & Antoro , B. (2023). Relationship Behavior Parental Smoking Against Incident Acute Respiratory Infection in Toddlers in the Technical Implementation Unit of the Banjar Agung Inpatient Health Center, South Lampung Regency . Nusantara Journal of Multidisciplinary Science, 1(2), Article 2..

4. Amini. (2010). Influence Smoker Passive to Incident Dysmenorrhea Prime [Undergraduate Thesis]. Sebelas Maret University.

5. Yanti, DE, & Sari, N. (2018). Analysis of Related Factors With Incident Infection Channel Breathing Acute (Acute Respiratory Infection) in Toddlers Aged 1-5 Years in the Work Area Health Center Sukaraja Nuban, East Lampung Regency . Journal of World Health , 7(4), Article 4. https://doi.org/10.33024/jdk.v7i4.1083

6. Pakpahan AF, Prasetio A, Negara ES, Gurning K, Risanti, Situmorang FR, et al. Scientific Research Methodology. Medan, Indonesia: : Yayasan Kita Menulis; 2021. 176 p.

7. Yuningsi , S., Saafi, LO, & Tasrun , LO (2023). Risk Factors Incidence of Acute Respiratory Infection in Toddlers in Work Areas Waara Health Center . Healthy Mandala Waluya Journal , 2(3), Article 3. https://doi.org/10.54883/jhmw.v2i3.549

8. Hartati, DA, Risky, S., Kamalia , L., Tonapa , H., & Rizal, NA (2022). Evaluation of Rational Antibiotic Use in Non-Pneumonia Acute Respiratory Infection Disease Patients in the Working Area of Health Center "X" in Mining Area PT. ANTAM, Tbk Pomalaa Subdistrict. Waluya The International Science of Health Journal, 1(4), 136–139.

9. Sofia, S. (2017). Risk Factors Environment with Incidence of Acute Respiratory Infection in Toddlers in Work Areas Health Center Want to be successful in Aceh Besar Regency . AcTion : Aceh Nutrition Journal , 2 (1), 43–50. https://doi.org/10.30867/action.v2i1.35

10. Dani, R., Fidora , I., & Utami, AS (2022). Relationship Sanitation Physical House with Incident Infection Channel Breathing Acute Infection (Acute Respiratory Infection) in Toddlers. Journal Scientific Permas : Journal Kendal Health Science College , 12(4), Article 4.

11. Hukmi , MSWM, Alkhusari , A., & Ariyani, Y. (2023). Relationship Environment Physical and Parental Roles Towards Acute Respiratory Infection Incident in Toddlers. Babul Ilmi Journal Scientific Multi Science Health, 15(2), Article 2. https://doi.org/10.36729/bi.v15i2.1133

13. Harto, T. (2020). Relationship Condition Ventilation and Density Residence To Incidence of Acute Respiratory Infection in Toddlers in Work Areas Health Center Joy East Baturaja 2019. Masker Medika, 8(1), Article 1. https://doi.org/10.52523/maskermedika.v8i1.371

14. Taufik, R. (2017). Relationship Condition Home Environment And Behavior Family With Incidence of Pneumonia in Toddlers in Work Areas Health Center Demangan City of Madiun [Other, BHAKTI HUSADA MULIA HEALTH COLLEGE]. http://repository.stikes-bhm.ac.id/94/

15. Z olanda , A., Raharjo, M., & Setiani , O. (2021). Risk Factors and Association of Environmental with The Incidence of Acute Respiratory Infection in Toddlers: Study on Working Area of Lubuk Kilangan Public Health Center. Journal Aisha : Journal Health Sciences , 6(3),

Article 3. https://doi.org/10.30604/jika.v6i3.729

16. Triandriani , V., & Hansen, H. (2019). Relationship Environment Physique with Incident Acute Respiratory Infection in Toddlers in the Work Area of Sidomulyo Health Center, Samarinda City . Borneo Studies and Research, 1(1), Article 1.
17. Dewiningsih , U. (2018). Environmental and Behavioral Factors Pneumonia Incidence in Toddlers Aged 12-59 Months. HIGEIA (Journal of Public Health Research and Development), 2(3), Article 3. https://doi.org/10.15294/higeia.v2i3.23512
18. Sinclair, A.H., Melly, S., Tolsma, D., Spengler, J., Perkins, L., Rohr, A., & Wyzga , R. (2014). Childhood asthma acute primary care visits, traffic, and traffic-related pollutants. Journal of the Air & Waste Management Association. https://www.tandfonline.com/doi/abs/10.1080/10962247.2013.873093
19. S etyaningsih , W., & Setyawan , DA (2016). Epidemiological Study With Approach Analysis Spatial Against Risk Factors Disease Infection Channel Breathing Acute (Acute Respiratory Infection) in Children in the District Sragen . Journal Therapy Physics , 1(1), Article 1.
20. Indriawati , R., & Kurnianto , D. (2023). The effect of living by the highway on the respiratory tract disease pattern and the autonomic nerve response. AIP Conference Proceedings, 2683(1), 030005. https://doi.org/10.1063/5.0125130
21. Rhee, J. Et Al. (2020) 'Risk Of Acute Respiratory Distress Syndrome Among Older Adults Living Near Construction And Manufacturing Sites', Epidemiology, 31(4), P. 468. Available At: Https://Doi.Org/10.1097/EDE.0000000000001195 .
22. Akbar MI, Effendi DS, Dewi N, Lestari H, Kohali RE. Interconnection study of stunting events in North Buton District. InProceedings of the 2nd Alauddin Health and Medical International Conference 2024 Mar 28.
23. Febrianti , A. (2020). Knowledge , attitudes and education Mother with incidence of Acute Respiratory Infection in toddlers at the 7 Ulu Community Health Center , Palembang City. Saelmakers PERDANA Health Journal (JKSP), 3(1), 133–139.
24. Tarimana , DF, Supodo , T., & Achmad, BK (2023). Factors Related to with Incidence of Acute Respiratory Infection in Toddlers in Work Areas Nambo Health Center . Healthy Mandala Waluya Journal , 2(3), Article 3. https://doi.org/10.54883/jhmw.v2i3.350