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The Description of Factors Causing Pneumonia in Toddlers at Rose Room of Kendari City Hospital

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Abstract*. Pneumonia is the most common disease affecting infants and children globally. It is the most common cause of under-5 (U-5) death and contributed to 15% of U-5 deaths in 2017, killing an estimated 808,920 children. World Health Organization (WHO) data showed that acute respiratory infections (ARI) are the second most common cause of disability-adjusted life years lost worldwide. During the Millennium Development Goals era from 2000 to 2015, WHO-led ARI control programs reduced the burden of pneumonia deaths from 1.7 million annual cases to 0.9 million, a reduction of 30% in load. At the same time, the pneumonia mortality rate decreased by almost 51%. This study aims to describe the factors that cause pneumonia in the rose room of the Kendari City Hospital from May to June 2022. This research is a descriptive study with a total sample of 27 toddlers suffering from pneumonia. The results of this study show that the proportion of exclusive breastfeeding for most toddlers has received exclusive breastfeeding, namely 14 toddlers (51.9%). Toddlers with pneumonia are dominated by families with a smoking history, namely 23 people (85.2%). Based on the immunization history of pneumonia sufferers with immunization status dominated by incomplete immunization, as many as 15 people (55.6%). Based on the research results, it is recommended that people live a healthy lifestyle by not consuming cigarettes in the home environment or when they are close to toddlers.*

Introduction

Pneumonia is the most common disease affecting infants and children globally. It is the most common cause of under-5 (U-5) death and contributed to 15% of U-5 deaths in 2017, killing an estimated 808,920 children. World Health Organization (WHO) data showed that acute respiratory infections (ARI) are the second most common cause of disability-adjusted life years lost worldwide. During the Millennium Development Goals era from 2000 to 2015, WHO-led ARI control programs reduced the burden of pneumonia deaths from 1.7 million annual cases to 0.9 million, a reduction of 30% in

load. At the same time, the pneumonia mortality rate decreased by almost 51% [1].

Indonesia is eighth-ranked with pneumonia sufferers that lead to death, with around 22,000 children who die. Referring to the 2017 ISPA Sub-Directorate Routine Report data, the prevalence of pneumonia was 20.54% of those suffering from pneumonia per 1000 children under five. Whereas in Southeast Sulawesi, the number of toddlers diagnosed with pneumonia ranged from 2,577 children with a percentage (26.64 %) The number of pneumonia cases in Kendari city that received successful treatment was 8.13%, which was still far from the target of 80% [2].

Pneumonia management must be done quickly and precisely before the *Sustainability Development Goals* (SDG) program is completed in 2023. There are around 11 million children under five whose lives are caused by pneumonia. There are about 30 countries that have the highest prevalence of pneumonia sufferers, with the number of children under five deaths due to pneumonia compared to 4/1000 births in 2018. Indonesia is one of three countries with good management of pneumonia [2].

Many factors can cause pneumonia, but there are no definite steps that can be taken to prevent pneumonia. But three steps can inhibit the increase in pneumonia sufferers: protect, gives protection to children through exclusive breastfeeding and nutritious food. Prevent, to carry out complete immunization prevention. Clean and healthy living behavior, namely by washing hands using soap in running water, applying the correct coughing method and minimizing the occurrence of air police, implementing the practice of washing hands with soap (CTPS) and applying good cough etiquette. Correct. Reducing air pollution, especially indoors, and early screening for pneumonia [3].

Risk factors for pneumonia in children based on [4] include children born below average weight, not being exclusively breastfed, incomplete child immunization, vitamin A deficiency and being in an environment with high levels of pollution and being in an atmosphere of smokers. Children who do not receive measles immunization have a 1.6 times risk of developing pneumonia compared to children who receive complete vaccination [5]. The factor of mothers who do not provide adequate breastfeeding for their children is due to the age factor, the mothers at a young age have not mature milk, while those aged > 35 years have experienced a decline in the function of the reproductive organs of breast milk [6].

This research is in line with the study of [7], which stated that incomplete immunization status and exposure to cigarette smoke could affect the incidence of pneumonia in children aged 12-59 months. Families who have family members who smoke will cause air pollution in the room continuously. Indoor cigarette smoke air pollution will cause a high risk of pneumonia. It is in line with research, which states that toddlers at home with families with smoking habits have a 5.7 times higher risk of developing pneumonia compared to toddlers with non-smoker family members.

A preliminary study conducted at the Rose Room at the Kendari City Regional General Hospital found that the number of pneumonia patients in 2019 was 157 of patients. In 2020, there were 70 patients, and in 2021 there was an increase of 100 cases of pneumonia. In 2022 from January to February, the number of pneumonia patients in toddlers was 38 [8].

Pneumonia ranks as the third highest disease in the Rose Room of the Kendari City Hospital. Interviews with eight mothers found that as many as five mothers did not give exclusive breastfeeding, while three others said their children's immunizations were incomplete [8]

So this study aims to report the causative factors of pneumonia in Kendari City Hospital.

Method

The approach used in this study is descriptive. The research was carried out in the rose room of the Kendari City Hospital from May 30 to July 4, 2022. The sample in this study was 27 samples that met the criteria the researchers had compiled.

Results and Discussion

Respondent Characteristics

The distribution of respondent characteristics is presented in the following table.

Table 1. Distribution of respondent characteristics in the Rose Room of the Kendari City Hospital

Characteristics of Respondents	n	(%)
Age (years)		
18-25 years	8	29,6
26-30 years	11	40,8
31-50 years	8	29,6
Last education		
S1/D3	4	14,8
Senior High School	20	74,1
Junior High School	3	11,1
Elementary School	0	
Profession		
House Wife	17	63
Government Employee	5	18.5
Self-employed	5	18.5

The table showed that the majority of parents of toddlers suffering from ISPA are 26-30 years old, as many as 11 people (40.8%), with last education dominated by high school as many as 20 people (74.1%) and work background most of them work as housewives as many as 17 people (63%).

Based on the research results are shown in the following table.

Table 2. An Overview of The Factors That Cause Pneumonia in Toddlers Based on Exclusive Breastfeeding

Category	n	Percentage (%)
Exclusive breastfeeding	13	48,1
Non-Exclusive	14	51.9
Total	27	100

Table 3. An Overview of The Causes of Pneumonia in Toddlers Based On Smoking Status In The Family

Family Smoking Status	n	Percentage (%)
There is	23	85,2
There isn't any	4	14,8
Total	27	100

Table 3 illustrates that the majority of toddlers who have pneumonia have family members who smoke as many as 23 people (85.2%) and at least no family members who smoke as many as 4 (14.8%).

Table 4 Description of Causative Factors Based On Immunization History

Immunization Status	n	Percentage (%)
Complete	12	44,4
Incomplete	15	55,6
Total	27	100

The table above shows that most toddlers who experience pneumonia have incomplete immunization status, as many as 15 people (55.6%), and there are no family members who smoke, as many as 12 (44.4%).

Factors Causing Pneumonia Based on Exclusive Breastfeeding

The results of research conducted in the children's room at the Kendari City Hospital found that several factors can cause

pneumonia, including exclusive breastfeeding. In this study, 13 infants (52.9%) were given breast milk. Exclusive breastfeeding for children is considered to provide excellent protection for them to maintain and enhance their immune systems in toddlers. The same study found that toddlers who do not get exclusive breastfeeding have the potential to experience pneumonia 45 times more than toddlers who get exclusive breastfeeding for six months [9].

Other research suggests that toddlers who are not exclusively breastfed suffer from pneumonia 22 times more than those who are exclusively breastfed. The prevalence of children under five who are not given exclusive breastfeeding is increasing along with the number of mothers who work as career women [10] . The same study also showed that toddlers who were not exclusively breastfed had a 3.1-fold risk of suffering from pneumonia compared to toddlers who were exclusively breastfed [11].

Factors Causing Pneumonia Based on Smoking Status in the Family

The smoking habits of family members show the practices of family members of toddlers with pneumonia who smoke 23 people (85.2 %) and the patterns of family members of toddlers with pneumonia who do not smoke four people (14.8%).

It is an activity that can cause certain diseases. Smoking habits can be detrimental to health, but even though people already know the terrible effects of smoking, smoking habits cannot be avoided in the community. [12].

Smoking activities are considered fun for smokers, but they will negatively impact their health and those around them who inhale the smoke from burning cigarettes. It is because cigarettes contain toxic substances [13]

The same study also found a significant relationship between smoking habits and the incidence of ARI in toddlers [14]. The higher the smoking habit of family members in the house, the higher the prevalence of ISPA sufferers in toddlers [15].

Then the results of the study explained that toddlers who live with other family members who have smoking habits have the potential to suffer from pneumonia 1.269 times compared to toddlers with families who do not have traditions of smoke. The activity of smoking indoors causes children to inhale cigarette smoke, so children become passive smokers. Exposure to cigarette smoke inhaled directly by children can interfere with children's health. The toxins contained in cigarettes that are released from the smoke from burning cigarettes will interfere with the respiratory system of children living in the house [16].

Factors Causing Pneumonia Based on Immunization Status

Based on this study, it was found that 15 children (55.6%) who suffered from pneumonia with incomplete immunization status and at least 12 people (44.4%) with complete immunization.

Pneumonia is a disease that can be prevented by immunization. Immunization is an alternative that is carried out to increase the immune system and immunity against a condition so that if someone who has been immunized is exposed to a particular disease, then he does not suffer from the disease. [7], toddlers are prone to suffering from pneumonia because children under five have respiratory system organs whose

development is immature and conditions in children still have a weak immune system, so they are prone to suffering from pneumonia. Completeness of child immunization status affects the incidence of pneumonia. Children who do not get complete immunization have a 2.39 times greater chance of suffering from pneumonia than toddlers who get full immunization.

Researchers assume that pneumonia can be caused by several factors that must be considered. The smoking habit of family members can increase the risk of toddlers suffering from pneumonia. Incomplete immunization is a very high risk for toddlers suffering from pneumonia. Exclusive breastfeeding can improve the toddler's immune system from various diseases, including pneumonia.

Conclusions and Suggestions

Research conducted in the rose room at the Kendari City Hospital, it can be concluded that several factors can cause the incidence of pneumonia in toddlers, namely that there are 13 people (51.9%) toddlers who do not give exclusive breastfeeding, the habit of smoking family members of toddlers with pneumonia is 23 15 people (55.6%) had pneumonia with incomplete immunization status, at least 12 people (44.4%) had complete immunization.

So, it is suggested that the community carry out activities that support a clean and healthy life, for example, not smoking in the house or near toddlers, and it is hoped that the role of health workers will further increase the immunization program and immunization coverage by providing health education to families about immunization itself.

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