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Relationship Between Knowledge Of Mothers Of Toddlers And Behavior To Prevent Recurrent Pneumonia At Southeast Sulawesi Province

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Abstract

Background: Pneumonia causes more deaths in children under five than AIDS, malaria and measles combined. If toddlers is not handled and cared for properly, pneumonia can recur or be called recurrent pneumonia. Based on initial data collection for the last 3 months, the number of cases of recurrent pneumonia in toddlers in the Bahteramas Hospital Poly room in 2022 was 36 cases.

Purpose: This study was to determine whether there is a relationship between the knowledge of mothers under five and the behavior of preventing recurrent pneumonia at Bahteramas General Hospital, Southeast Sulawesi Province.

Methods: research used is quantitative research. The design used in this study is a correlational analytic study using a cross sectional study approach. The total population in this study was 36 respondents with a total sample of 33 respondents.

Results: The results of statistical tests using the chi-square test obtained a p value of 0.000 which is less than α (0.05) meaning that there is a relationship between knowledge and behavior to prevent recurrent pneumonia.

Conclusion: This study found a significant relationship between the knowledge of mothers with toddlers and the behavior of preventing recurrent pneumonia at Bahteramas General Hospital, Southeast Sulawesi Province. Education for mothers with toddlers is essential to enhance efforts to prevent recurrent pneumonia in their children.

Background

Pneumonia is the main killer of children under five in the world, more than AIDS, malaria and measles combined. The percentage is 19% of all causes of death for children under five, so the World Health Organization (WHO) calls pneumonia the leading killer of children worldwide. Every year in the world it is estimated that more than 2 million children under five die due to pneumonia (1 child/20 seconds) out of 9 million total deaths of children under five. Among the five deaths of children under five, one was caused by pneumonia, but not much attention is paid to this disease so pneumonia is also called the forgotten killer of children (Efni et al., 2016). Pneumonia is an acute infection that affects the lung tissue (Alveoli). In children suffering from pneumonia, the lungs' ability to expand is reduced so the body reacts by breathing quickly to avoid hypoxia. Children with coughs or difficulty breathing may suffer from pneumonia or other serious respiratory tract infections, however, the majority of coughing children who come to health facilities only suffer from mild respiratory tract infections (Wati et al., 2020).

In general, people think that coughing in toddlers is not dangerous, because coughing can affect children repeatedly. People do not understand that coughs can develop into serious illnesses such as pneumonia if they are not treated and treated immediately, especially when a child's immune system decreases. Most people don't know what pneumonia in toddlers is and people still don't realize that pneumonia is a dangerous disease for toddlers and can even cause death (Puspitasari and Enny, 2021). Based on a UNICEF report, it was recorded that in 2018 around 802,000 children under five died due to pneumonia. Globally, there are more than 1,400 cases of pneumonia per 100,000 children, or 1 case per 71 children each year, with the greatest incidence occurring in South Asia (2,500 cases per 100,000 children) and West and Central Africa (1,620 cases per 100,000 children) (Unicef, 2019). According to Pneumonia & Diarrhea Progress Report 2018, Indonesia is one of the 15 countries with the highest death rate from pneumonia in the world (IVAC, 2018).

Based on data from the 2017 Indonesian Health Profile, the number of deaths due to pneumonia in children under five in 2017 in Indonesia was 1,752 deaths (0.34%). This figure has increased compared to the death rate in 2016, namely 598 deaths (0.11%) (Ministry of Health of the Republic of Indonesia, 2018). Even though in 2018 the under-five mortality rate due to pneumonia in Indonesia decreased to 425 deaths (0.08%), the percentage of districts/cities where 50% of their community health centers carry out standard pneumonia examinations and management using the Integrated Management of Sick Toddlers (IMCI) approach has not yet met. target of the 2018 Strategic Plan. The results obtained in 2018 were 43%, this figure is still below the 2018 Strategic Plan target of 50% (RI Ministry of Health, 2019). The prevalence of pneumonia in toddlers in the Bahteramas Hospital Poly Room was recorded at 19 cases in 2019, 100 cases in 2020, 60 cases in 2021 and 57 cases in 2022. Based on preliminary data collected for the last 3 months, the number of cases of recurrent pneumonia in toddlers in the Bahteramas Hospital Poly ward in 2022 was 36 cases.

Many efforts have been made to overcome pneumonia cases, from prevention to treatment. However, pneumonia cases are still high and there are even cases of recurrent pneumonia in toddlers. Recurrent pneumonia is also influenced by the child's low immune system, the presence of other diseases and unhealthy environmental conditions which influence the recurrence of pneumonia. This unhealthy environmental condition is influenced by a person's behavior in maintaining the health of the surrounding environment. Recurrent pneumonia incidents that occur in toddlers can cause stunted growth and development of toddlers. Apart from that, it can have a fatal impact, namely the death of toddlers (Lambang, A.P. 2020)

To reduce the occurrence of recurrent pneumonia, prevention needs to be done. Mother's behavior is very important in preventing recurrent pneumonia, where the mother has a role in ensuring that her child does not contract recurrent pneumonia because the mother is the main figure who is most responsible for the growth and development of toddlers. Mother's behavior is very related to maintaining a child's health. Positive behavior such as immunization activities and regulating ventilation in the house makes children healthy and strong, whereas negative behavior such as rarely cleaning the house and the surrounding environment can cause children to get sick easily and catch disease. Maternal behavior such as providing food, inadequate or inadequate care for toddlers can influence the occurrence of recurrent pneumonia (Dwi, 2015).

If the mother plays a good role, the toddler's pneumonia is less likely to recur and conversely, if the mother's behavior is poor, the toddler's pneumonia is likely to recur.

According to research results by Kurniati (2019), the factors that influence pneumonia prevention behavior are maternal knowledge, maternal behavior, physical environment, and the role of smoking behavior. The higher the mother's level of knowledge, the better the prevention of pneumonia and the more the mother knows about pneumonia, the lower the pneumonia morbidity and mortality rates in toddlers. Meanwhile, mothers who do not have sufficient knowledge about pneumonia will not support efforts to prevent pneumonia, resulting in higher rates of pneumonia morbidity and mortality in children under five (Alfaqinisa, 2015). Mothers' knowledge about pneumonia is still poor, so many toddlers suffer from pneumonia, not just once but repeatedly in the same toddler. Mothers' low knowledge about pneumonia can influence prevention behavior. There are several behaviors that are at risk for pneumonia, namely the behavior of not washing hands, the behavior of not covering the nose and mouth when coughing, the behavior of not taking sick children to health care facilities, the behavior of smoking, the behavior of not opening windows, and the behavior of not cleaning the house (Siti et al, 2014 in Alfaqinisa, 2015).

The impact of low maternal knowledge on the above preventive behavior can influence the mother's behavior in providing good care to toddlers, which will aggravate the disease, namely serious pneumonia so that when they are taken to the hospital their condition is getting worse. Other impacts are that the toddler's weight decreases, fever does not decrease and appetite decreases. The results of initial observations carried out on May 27 2022 at RSU Bahteramas regarding the prevention of recurrent pneumonia resulted in the conclusion that prevention of pneumonia by mothers varies. The results of the interviews revealed that 8 mothers said their children were suffering from recurring pneumonia due to coughing and did not immediately have their children checked, 1 mother of a toddler said that the family in the same house had someone coughing and the mother prevented it by wearing a mask, 5 people said that if the child coughed they did not immediately get checked and only bought medicine at the pharmacy. The aim to be achieved in this research is to determine the relationship between the knowledge of mothers of toddlers and the behavior of preventing recurrent pneumonia at Bahteramas General Hospital, Southeast Sulawesi Province. Based on this background, researchers are interested in conducting research on "The Relationship between Knowledge of Mothers of Toddlers and Behavior to Prevent Recurrent Pneumonia at Bahteramas General Hospital, Southeast Sulawesi Province".

Method

The type of research used is quantitative research with a correlational analytical research design using a cross sectional approach. This research was carried out in September-October 2022. The population in this study were mothers of toddlers suffering from recurrent pneumonia who were at Bahteramas General Hospital, Southeast Sulawesi Province. The population in this study was 36. This research uses purposive sampling. The sample size is determined using the

Taro Yamane formula (Liando, 2019). The inclusion criteria in this study were: Toddlers suffering from pneumonia undergoing treatment at the hospital.

Bahteramas, Southeast Sulawesi province and mothers of toddlers who are willing to be respondents. The exclusion criteria in this study were: Toddlers with complications from other diseases and mothers suffering from pneumonia who did not want to be interviewed. The research instrument used a questionnaire. The statistical test used is chi-square.

Results

Demographic Characteristics

Univariate Analysis

Table 1 Distribution of Characteristics Distribution of respondents based on age characteristics

Age (Months)	n	%
11-15	7	21.2
16-20	7	21.2
21-25	13	39.4
26-30	3	9.1
31-35	2	6.1
36-40	1	3.0
Total	33	100.0

Based on table 1, it shows that of the 33 respondents, 7 respondents (21.2%) were aged 11-15 months, 7 respondents (21.2%) were aged 16-20 months, 13 respondents (39.4%) were aged 21-25 months , 3 respondents (9.1%) aged 26-30 months, 2 respondents (6.1%) aged 31-35 months and 1 respondent (3%) aged 36-40 months.

Table 2 Distribution of respondents based on gender of toddlers can be seen in the following table

Gender	n	%
Man	15	45.5
Woman	18	54.5
Total	33	100.0

Based on table 2, it shows that of the 33 respondents, 15 respondents (45.5%) were male while 18 respondents (54.5%) were female.

Table 3 Distribution of respondents based on mother's age can be seen in the following table

Age (Years)	n	%
21-25	18	54.5
26-30	9	27.3
31-35	6	18.2
Total	33	100.0

Based on table 3, it shows that of the 33 respondents, 18 respondents (54.5%) were aged 21-25 years, 9 respondents (27.3%) were aged 26-30 years, 6 respondents (18.2%) were aged 31-35 years .

Table 4 Distribution of respondents based on maternal education can be seen in the following table

Last education	n	%
elementary school	3	9.1
Junior High School	10	30.3
Senior High School	13	39.4
Bachelor	7	21.2
Total	33	100.0

Based on table 4, it shows that of the 33 respondents, 3 respondents (9.1%) had an elementary school education, 10 respondents (30.3%) had a tertiary education, 10 respondents had a high school education (39.4%), and 7 respondents had a bachelor's degree (21, 2%).

Table 5 Distribution of Respondents Based on Mother's Job

Job	n	%
Housewife	23	69.7
Self-employed	8	24.2
Trader	2	6.1
Total	33	100.0

Based on table 5, it shows that of the 33 respondents, 23 respondents (69.7%) were housewife, 8 respondents (24.2%) were self-employed and 2 respondents (6.1%) were traders.

Table 6 Distribution of respondents based on number of recurrent pneumonia can be seen in the following table

Recurrent Pneumonia	n	%
2 times	19	57.6
3 times	14	42.4
Total	33	100.0

Based on table 6, it shows that 19 respondents (57.6%) experienced pneumonia twice, while 14 respondents (42.4%) experienced pneumonia three times.

Table 7 The distribution of respondents' knowledge about recurrent pneumonia can be seen in the following table

Knowledge	n	%
Enough	14	42.4
Not enough	19	57.6
Total	33	100.0

Based on table 7, it shows that of the 33 respondents, 14 respondents (42.4%) had sufficient knowledge while the other 19 respondents (57.6%) had insufficient knowledge.

Table 8 Distribution of Respondents Based on Pneumonia Prevention Behavior

Behavior	n	%
Enough	11	33.3
Not enough	22	66.7
Total	33	100.0

Based on table 8, it shows that of the 33 respondents, 11 respondents (33.3%) had sufficient behavior to prevent recurrent pneumonia, while the other 22 respondents (66.7%) had inadequate prevention behavior for recurrent pneumonia.

Bivariate Analysis

Table 9 Relationship between Knowledge and Recurrent Pneumonia Prevention Behavior

Knowledge	Behavior				*p*-value
	Enough		Not enough		
	n	%	n	%	
Enough	11	33.3	3	9.1	**0,000**
Not enough	0	0.0	19	57.6	
Total	11	33.3	22	63.7	

Based on table 9, it shows that in the sufficient knowledge category there were 11 respondents (33.3%) who had sufficient prevention behavior for recurrent pneumonia and 3 other respondents (9.1%) had inadequate pneumonia prevention behavior. Meanwhile, in the lack of knowledge category, 19 other respondents (57.6%) had poor behavior in preventing recurrent pneumonia.

The results of statistical tests using the chi-square test showed that the p value was 0.000, which was smaller than α (0.05), meaning that there was a relationship between knowledge and behavior to prevent recurrent pneumonia.

Discussion

Pneumonia is an acute infection that attacks lung tissue (alveoli) caused by bacteria, viruses or fungi. The occurrence of pneumonia in children under five often coincides with the occurrence of an acute infectious process in the bronchi called bronchopneumonia. Symptoms of this disease include rapid and shortness of breath in toddlers due to a sudden attack of lung inflammation. Many efforts have been made to overcome pneumonia cases, from prevention to treatment. However, pneumonia cases are still high, there are even cases of recurrent pneumonia in toddlers, including at Bahteramas General Hospital, Southeast Sulawesi Province. Judging from the availability of adequate facilities, Bahteramas hospital has maximized the provision of adequate facilities and supporting facilities for treatment to prevent recurrent pneumonia, but field facts show that cases of recurrent pneumonia still occur in toddlers. This incident is thought to be due to the mother's low level of knowledge, thus triggering less than optimal pneumonia prevention behavior.

Knowledge plays an important role because with good knowledge about pneumonia, mothers can decide what actions can be taken to overcome health problems, especially reducing the risk of recurrence of pneumonia in their toddlers. Increased knowledge is not absolutely obtained from formal education, but can also be obtained from non-formal education. A person's knowledge about an object also contains two aspects, namely positive and negative aspects. These two aspects will ultimately determine a person's attitude towards a particular object. The more positive aspects of an object that are known, the more positive attitudes towards that object will grow.

Behavior in efforts to prevent pneumonia is the efforts of mothers of toddlers to carry out preventive behavior so that their children do not contract pneumonia. All of the behavior of mothers of toddlers is a reflection of the mother of toddlers' own knowledge about preventing

pneumonia. If the level of knowledge of mothers of toddlers is good regarding preventing pneumonia, their behavior in preventing pneumonia will increase done well too.

The research results showed that of the 33 respondents, 14 respondents (42.4%) had sufficient knowledge while the other 19 respondents (57.6%) had insufficient knowledge. These results indicate that there are still many mothers who have insufficient knowledge regarding preventing pneumonia, while good knowledge can be one of the right efforts to suppress and prevent the occurrence of pneumonia in toddlers. To reduce the occurrence of recurrent pneumonia, prevention needs to be done. Maternal behavior is very important in preventing recurrent pneumonia, where mothers have a role in ensuring that their children do not contract recurrent pneumonia because the mother is the main figure most responsible for the growth and development of toddlers (Lambang, 2020).

The results of the study found that 11 respondents (33.3%) had sufficient knowledge to prevent recurrent pneumonia. This knowledge was obtained by the mother through experience and reading information on social media. With this knowledge, the respondent's mother maximized good environmental conditions to prevent recurrence of pneumonia. So researchers assume that recurring pneumonia cases are caused by the toddler's weak immune system. The researcher's assumption is strengthened by the theory which states that pneumonia recurs influenced by the low immune system of toddlers, the presence of other diseases and unhealthy environmental conditions which influence the recurrence of pneumonia (Alfriina, 2020). The researcher's assumption is also supported by interview results which state that most toddlers who experience recurrent pneumonia do not receive exclusive breast milk and are not supported by good nutrition for toddlers. This is in accordance with this theory that recurrent cases of pneumonia can be caused by a lack of adequate and nutritious food.

In terms of educational background, 3 respondents (9.1%) had primary school education, 10 respondents had junior high school (30.3%), 13 respondents had a high school education (39.4%) and 7 respondents had a bachelor's degree (21.2%). Most of the respondents' education is still in the low education category.

Educational background is closely related to the knowledge he has. This assumption is supported by the theory put forward by Baker and Lopez (2010) that knowledge is obtained from education, where the higher a person's education, the better knowledge they can provide compared to those with lower education, so that those with better knowledge will understand more about methods and ways to prevent pneumonia thereby minimizing the incidence of recurrent pneumonia. Education itself is the basis for forming a person's behavior so that education is said to be the second largest factor of socio-economic factors that influence health status. A person who has a high level of education will have good knowledge and attitudes about health, which will influence his behavior to live a healthy life. Sufficient education for a person will make it easier to seek and receive information from outside, especially regarding pneumonia so that respondents can immediately take action. prevention.

The results showed that in the poor knowledge category, 19 respondents (57.6%) had poor behavior in preventing recurrent pneumonia. This result is associated with the mother's age which is categorized as a young mother so that experience and knowledge about pneumonia is still low. Mothers who do not have sufficient knowledge about pneumonia will underestimate it and will not even support efforts to prevent pneumonia, this has an impact on high rates of pneumonia morbidity and mortality in toddlers. The results of interviews with respondents revealed that a lack of knowledge caused the respondent's parents to be unable to create a healthy environment for their children, as evidenced by the fact that there were still parents

who did not prevent their toddlers from being exposed to cigarette smoke, resulting in recurrent pneumonia.

This research is in line with previous research conducted by Maharani (2019) which examined maternal behavior in preventing pneumonia in toddlers which obtained results that one of the factors related to maternal behavior was the mother's level of knowledge about preventing pneumonia. Likewise, research conducted by Lambang (2020) stated that the factor related to behavior to prevent recurrent pneumonia in toddlers was knowledge with a P value of 0.030. Likewise, in this study, the level of knowledge of respondents was related to maternal behavior in preventing recurrent pneumonia with a p-value of 0.000.

Conclusion

Based on the objectives and results of the analysis, it was concluded that there was a relationship between the knowledge of mothers of toddlers and the behavior of preventing recurrent pneumonia at Bahteramas General Hospital, Southeast Sulawesi Province.

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