Women, Midwives, and Midwifery
https://wmmjournal.org
Publisher: Asosiasi Pendidikan Kebidanan Indonesia (AIPKIND)
http://aipkind.org

The Relationship between Mother's Behavior in Seeking Treatment with the Recurrence Rate of Pneumonia among Children Under Five

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ABSTRACT

Introduction: Pneumonia is a global problem with a significant cause of death for more than 2 million children under five every year. Mothers' behavior in seeking treatment is one of the main factors of delay in getting proper treatment by increasing the risk of recurrence pneumonia among children under five . This study aim ed to investigate the relationship between the mother's behavior in seeki ng treatment with the recurrence rate of pneumonia among children under five.
Method: This research method was an observational analytic study with the cross-sectional approach. The number of samples in this study was 47 mothers with toddlers pneumonia. The sampling technique was using purposive sampling and d ata analysis used Chi -square and multiple logistic regression.
Result: The study found, there was a relationship between the mothers' behavior in seeking treatment with the recurrence rate of pneumonia among children under five (PR = 12,000 ; CI95%=2,275-63,285; p = 0.003). One of confounding variables namely the cost of treatment had relationship with the recurrence rate of pneumonia. Whereas the variables of mother's knowledge, access to services, and distance of residence are not related to the recurrence rate of pneumonia in infants . The results of multiple logistic regression analysis found that mothers' behavior in seeking of the treatment, treatment cost, and distance of residence affect 51.2% of the recurrence rate of pneumonia among children under five in Yogyakarta.
Conclusion: The mothers' behavior in seeking treatment, the cost of treatment, and distance of residence affect the recurrence rate of pneumonia among children under five.

Keywords: children under five; recurrence of pneumonia; mothers' behavior; seeking treatment

BACKGROUND

Health is one of the essential aspects of developing human resources . They have good quality as expected and c an have an influence on various aspects of people's lives. However, so far, there are still many health problems in Indonesia , such as the death of children under five, where under five is an age group prone to nutrition and prone to disease. One of the health problems and causes of morbidity and mortality among children under five in the world is pneumonia (Hanieh et al., 2015).

Globally every year, it is estimated that more than 2 million children under five die from pneumonia. Even more so than other diseases such as AIDS, malaria , and measles (Bhutta et al., 2013). Whom data in 2015 shows that the under -five mortality rate in the world is 43 deaths per 1,000 live births (WHO, 2016). The Inter-Census Population Survey (SUPAS) in 2015 showed the Infant Mortality Rate (AKABA) in Indonesia was 26.29 per 1,000 live births. In 2016 AKABA in the Special Region of Yogyakarta was 14.88 per 1,000 live births (Indonesian Ministry of Health, 2017). Pneumonia is an endemic disease and is an infectious disease spread in almost all developing countries and is a significant problem to pay attention to in its prevention efforts. (Tuhebwe et al., 2014).

Pneumonia accounts for 15% of all child deaths under the age of 5 years or 5.6 million deaths of children under five due to pneumonia in the world. Fifteen countries predicted that new cases and the highest incidence of pneumonia i n children under five were 74% (115.3 million) of 156 million cases worldwide, where 151 million (96.7%) occurred in developing countries. Most cases occurred in India , with 43 million, China 21 million, and Pakistan 10 million (Bhutta et a l., 2013). Meanwhile, Bangladesh, Indonesia , and Nigeria account for 6 million cases, covering 44% of the world's population of children under five per year (Indonesian Ministry of Health, 2017).

From the Yogyakarta Provincial Health Profile data (2018), the incidence of pneumonia in 2017 was 6,021. This comprised 33.4% at <1 year old and 66.6% at 1 - <5 years old. The highest number of pneumonia cases found and handled in 2018 was in Kulon Progo Regency at 50 per 1000 KH (Dinkes DIY, 2018). Due to the hi gh number of deaths caused by pneumonia among children under five, pneumonia is referred to as "the forgotten pandemic" or "the forgotten pandemic ." However, because there is not much attention to this disease, pneumonia is also called "the forgotten kille r of children" or "the forgotten killer of children under five" (Indonesian Ministry of Health, 2012).

The high recurrence rate of pneumonia in children under five is related to pneumonia's many factors. Various factors that influence the recurrence of pne umonia are not only internal factors of the toddler but also external factors such as environmental factors and family behavior related to the behavior of parents in seeking treatment or efforts to get help according to the needs of the illness and other f amily members that can increase the vulnerability of children under five to pneumonia (WHO, 2016).

Seeking appropriate treatment behavior will reduce the mortality rate for children under five due to pneumonia. Toddlers with parents who tend to seek treatment at current health services have a significantly lower risk of death (Boone in Sarafino, 2010). Several factors influence treatment -seeking behavior : demographic factors, perceived seriousness of the illness, perceived benefits, perceived barriers , and action conditions (Becker dan Rosenstock in Sarafino, 2010).

The largest percentage of the selection of medical sources by Indonesians who complained of illness was 66.82% of the population treated themselves , and 45.80% went to outpatient treatment. The Indonesian population who use traditional medicine is 23.63% (Central Bureau Statistics of Indonesian, 2011). This is quite interesting because many people do not take advantage of health services , with many people prefer to treat their diseases (Indonesian Ministry of Health, 2011).

Based on data [WHO (2010), in Southeast Asian countries and Sub Saharan Africa, only 21% of parents recognize the shortness of breath , and 17% recognize rapid breathing as a dangerous sign of pneumonia. According to a repo rt (Unicef, 2013) , 17.4% of mothers with pneumonia under five did not seek treatment, and 21% sought treatment from health services.

The results of the study stated that only 54% of children with pneumonia in developing countries were reported to be brough t to quality health services and , only 19% of children under five with clinical signs of pneumonia received antibiotics , and 27% of children under five did not receive treatment according to their needs. Treatment-seeking behavior is related to mothers' knowledge about the symptoms of pneumonia, where some mothers (48.8%) treat their children themselves without seeking treatment at health services. This is related to a lack of knowledge of pneumonia's clinical symptoms and parents' perceptions of pneumonia. Suffered by his son is a common cold cough disease (Dewi, 2013).

In developing countries, several factors were associated with a parental delay in seeking treatment, including financial problems, physical access, medical costs, and health and demographic factors. Focusing on Asia, Cai et al. (2015) stated that income, travel time/distance to health facilities, rural residence, unemployment status , and gender were significantly associated with delays in obtaining pneumonia diagnosis and treatment. In Indonesia, the accessibility of service providers is also the main reason for the delay in getting care for children under five who have pneumonia symptoms (Lock, W et al. , 2011). In Nigeria, distance, age , and urban residence are critical considerations for those with cough seeking treatment (Ukwaja et al., 2012).

OBJECTIVE

To determine the relationship between maternal behavior in seeking treatment for pneumonia with re currence rates of pneumonia in children under five in a Public health Center within Yogyakarta province.

METHODS

This research is an analytic observational study and uses quantitative research methods . The research method used was a research method or a cross -sectional research design. The cross-sectional method measures the independent variable, the dependent variable, and the external variable simultaneously and only takes one measurement. This researc h was conducted in January 2020 in the a Public health Center within Yogyakarta province . The public health center was selected because of the high incidence and recurrence of pneumonia in children under five. There were 165 cases in 2018, 38 of which we re found to have recurrent pneumonia. Ethical approval was gained before data collection from Universitas ‘Aisyiyah Yogyakarta Ethical Board Committee with reference number 1302/KEP - UNISA/XI/2019.

1. Sample

This study's target population was all mothers in the a p ublic health center who had toddlers (12-59 months) with pneumonia. The population in this study was 91 mothers who had pneumonia under five from January to December 2019. The sampling technique in this study was purposive sampling. The minimum samp le size is 46.97 respondents and rounded to 47 respondents. To avoid deviations in this study , 10% of the rest of the population was taken to be sampled if the number of calculations found respondents who did not meet the inclusion criteria.

Criteria inclu sion of t he study was a mother who has a toddler (12 -59 months) who has been diagnosed with pneumonia, who m live in the work area of the Public Health Center , registered as a patient in the public health center register book, vitamin A deposits, complete immunization status, exclusive breastfeeding, willing to be a respondent. Exclusion Criteria have comorbidities, a history of low birth weight babies (LBW), and poor nutritional status.

Respondents accompanied by the researcher when filling out the questionnaire. The researcher gave two questionnaire sheets, namely the identity sheet and the knowledge questionnaire sheet. When the respondent has difficulty in reading, the researcher helped the mother by reading the mother's questionnaire statement and asking for answers from the mother. The researcher examined each sheet and statement of the questionnaire to ensure that all data were filled in. The data collected will be analyzed to determine the level of knowledge of mothers about pneumonia, the behavior of mothers in seeking treatment for pneumonia.

2. Questionnaire Design

Questionnaire using closed statements on maternal behavior in seeking treatment and closed questions on maternal knowledge items about pneumonia. The questionnaire consisted of three parts, namely the identity of the respondent (mother and toddler), the behavior of the mother in seeking treatment for pneumonia, and questions about the confounding variables of the study (mother's knowledge of pneumonia, access to services, medical costs, a distance of residence) which were related to the recurrence rate of pneumonia in toddler.

RESULTS

1. Characteristics of Respondents (Mother and Toddler

A total of 47 mothers who had pneumonia under five were included in this study, the mother's age <25 years (14.9%) and 26 - 50 years (85.1%). Mother's last education is divided into two, namely low (completed primary school) and higher education (completed secondary school and university). Maternal education was in a low category (27.7%) and education in the high category (72.3%). The characteristics of children under five in this study were as many as 12 -24 months (27.7%) and 25 -59 months (72.3%). The sex of children under five, namely male (48.9%) and female (51.1%). It can be concluded that most of the mothers were 26 to 45 years old. The last education is in the category of higher education. The majority of children under five are aged 25 - 59 months, and there are more girls than boys.

Table 1. Characteristics of Respondents

Characteristics	n	%
Mother characteristics		
Mother's age		
A young mother (17-25 years)	7	14.9
Mature mother (26-45 years)	40	85.1
Mother's education		
High (SMA, D3 / PT)	34	72.3
Low (did not complete SD, SD, SMP)	13	27.7
Toddler characteristics		
Age		
12-24 months	13	27.7
25-59 months	34	72.3
Gender		
Man	23	48.9
Women	24	51.1

2. Distribution of Mother Behavior Frequency in Seeking Pneumonia Treatment and the Recurrence Rate of Pneumonia in Toddlers

The table of the frequency distribution of mothers' behavior in seeking treatment for pneumonia and the recurrence rate of pneumonia in toddlers presents data on each research variable's results, namely the behavior of mothers in seeking treatment obtained from the accumulated answers to the questionnaire. The accumulated value is categorized based on the

median value of the answer. Respondents who have scores greater than or equal to the median are grouped in good behavior, while respondents who have scored less than the median are grouped in poor behavior. In the table above, it can b e seen that of the 47 respondents , there were 24 respondents (51.1%) with good behavior in seeking treatment and 23 respondents (48.9%) with poor behavior in seeking treatment at health service facilities.

In this table, we can also see the study's dependent variable results, namely the recurrence rate of pneumonia in children under five. The recurrence rate of pneumonia is categorized as non-recurrent pneumonia if in 1-year pneumonia children under five were brought to the health center for treatment once and did not recur, while the recurrence category of pneumonia was if in the last one year period the toddler went to the health center more than once with a diagnosis of pneumonia. The table above shows that most children under five had non-recurrent pneum onia, namely 33 (70.2%) and 14 (29.8%) under -five with recurrent pneumonia.

Table 2. Frequency Distribution Behavior Mothers in Seeking Pneumonia Treatment and the Recurrence Rate of Pneumonia in Toddlers

Variable	Category	N	%
Mother's behavior in seeking	Well	24	51.1
treatment	Not good	23	48.9
Recurrence of Pneumonia	Not repeated	33	70.2
	Over and over	14	29.8

3. Disturbance of Confounding Variable Frequency Research

The research confounding variables' frequency distribution table shows that most respondents have the right knowledge level , namely 31 respondents (66%) and 16 respondents (34%) with poor knowledge about pneumonia in children under five. Almost all respondents had access to useful services in health facilities, namely 44 respondents (93.6%), and only three respondents (6.4%) believed that access to services was poor at health facilities. Regarding the medical cost variable, most of the respondents stated that they could reach medical expenses at health facilities, namely 39 respondents (83%) . Eight respondents (17%) stated that they could not reach medical costs at health service facilities. Whereas in the variable of residence distance,

The frequency distribution of research disturbing variables includes maternal knowledge, access to services, medical costs, and distance of residence can be seen in Table 4.3 below:

Table 3. Frequency Distribution Research Confounding Variables

Variable	Characteristics	N	%
Knowledge	Well	31	66
	Not good	16	34
Service access	Not good	3	6.4
	Well	44	93.6
Cost of treatment	Unable to reach	8	17
	Able to reach out	39	83
Residence distance	Far	31	66
	Close	16	34

4. Mother Behavior Relations in Efforts to Find Pneumonia Treatment with Recurrence Rate of Pneumonia in Toddlers

There is a relationship between maternal behavior in seeking treatment for pneumonia with recurrence rates of pneumonia in children under five in the area of Public health center with results (PR = 12,000; 95%, CI: 2,275 -63,285; p = 0.003), so it can be concluded that mothers with Poor behavior in seeking treatment for pneumonia were 12 times at risk of

experiencing recurrent pneumonia in their toddlers compared to mothers who had good behavior in seeking treatment for pneumonia in their toddlers.

Table 4. The Relationship between Mother Behavior in Seeking Pneumonia Treatment and the Recurrence Rate of Pneumonia in Toddlers

Variable	Recurrence of Pneumonia				P-value	Homework	CI 95%
	Number Reset	%	Ber reset	%			
Mother's behavior in seeking treatment							
a. Well	22	66.7	2	14.3	0.003	12,000	2,275-63,285
b. Not good	11	33.3	12	85.7			

5. Relationship of Confounding Variables with Recurrence Rate of Pneumonia in Toddlers

The relationship between maternal knowledge, access to services, medical costs , and distance of residence with the recurrence rate of pneumonia in children under five showed that there was no relationship between maternal knowledge and the recurrence rate of pneumonia in children under five with results (PR = 1.725; 95% CI: 0.473 -6.285, p = 0.409) so it can be concluded that mothers who have insufficient knowledge of pneumonia are at risk of experiencing pneumonia 1.7 times repeatedly in their children under fi ve compared to mothers who have good knowledge of pneumonia.

There was no relationship between access to services and the recurrence rate of pneumonia in children under five with results (PR = 1.192; 95% CI: 0.099-14.327, p = 0.890). Based on the results of the analysis in table 4.5, it shows that there is a relatio nship between treatment costs and the recurrence rate of pneumonia in children under five with the results (PR = 11,962; 95% CI: 1,962-68,870, p = 0.007) so that it can be concluded that mothers who have children under five with pneumonia and being unable to reach medical expenses have a risk of experiencing recurrent pneumonia 11.9 times compared to toddlers with mothers who can afford medical expenses. There was no relationship between residence distance and the recurrence rate of pneumonia in children un der five, and the outcome (PR = 4.421; 95% CI: 0.850-22.985, p = 0.077).

Based on the analysis results , it can be concluded that there is a relationship between treatment costs and the recurrence rate of pneumonia in children under five

Table 5. Relationship between Mother's Knowledge, Access to Services, Medical Costs, and Distance of Residence with Recurrence Rate of Pneumonia in Toddlers

Variable	Recurrence of Pneumonia				P-value	Homework	CI 95%
	Number reset	%	Ber reset	%			
Mother's knowledge							
a. Well	23	69.7	8	57.1	0.409	1,725	0.473-6,285
b. Not good	10	30.3	6	42.9			
Service access							
a. Not good	2	6.1	1	7,1	0.890	1,192	0.099-14,327
b. Well	31	93.9	13	92.9			

Cost of treatment							
a. Unable to reach	2	6.1	6	42.9	0.007	11,962	1,962-68,870
b. Able to reach out	31	93.9	8	57.1			
Residence distance							
a. Far (> 2 Km)	19	57.6	12	85.7	0.077	4,421	0.850-
b. Near (<2 Km)	14	42.4	2	14.3			22,985

6. Multivariate Analysis

Multivariate analysis was carried out to determine the relationship between variables, namely the independent variable and the confounding variable on the dependent variable together. The statistical test used was a logistic regression with a Prevalence Ra tio (PR). Table 4.6 shows the relationship between the mother's behavior in seeking treatment for pneumonia with the recurrence rate of pneumonia in toddlers. The variables of treatment costs and distance of residence are included . The results show that mothers who have poor treatment-seeking behavior are at risk of experiencing recurrent pneumonia ten times in their children under five than mothers who have good behavior in seeking pneumonia treatment. Toddlers with mothers who cannot afford medical expenses are at risk of 9 times experiencing recurrent pneumonia,

In the table of the results of the multivariate analysis , it can be seen that there are four models, where the benchmark in this study is the value of R2 and R2 , which is read is model 4, namely 0.512 because basically regression analysis is to estimate the least-squares function (R2). The value of R2 in model 4 is 0.512, which means that mothers' behavior in seeking treatment for pneumonia, medical costs, and distance of resid ence has an effect of 51.2% on the recurrence rate of pneumonia among children under five.

Based on the multivariate analysis, it was found that the most dominant variable that affected the recurrence rate of pneumonia was the mother's behavior in seeking treatment for pneumonia, which had the most significant influence compared to other variables with PR = 10.012 (95% CI: 1.599-62.684).

Table 6. Results of Multivariate Analysis

Variable	Model 1 PR (95% CI)	Model 2 PR (95% CI)	Model 3 PR (95% CI)	Model 4 PR (95% CI)
Mother's behavior in seeking treatment	12,000 (2,275-63,285)	13,200 (2,346-74,266)	11,098 (1,831-67,257)	10,012 (1,599-62,684)
- Well				
- Not good				
Cost of treatment			10,376	8,972
- Unable to reach			(1,328-81,074)	(1,387-58,049)
- Able to reach out				
Residence distance		5,216		6,724
- Far (> 2 Km)		(0.850-31,992)		(0.930-48,611)
- Near (<2 Km)				
R2	0.312	0.396	0.444	0.512
N	47	47	47	47

DISCUSSION

1. The behavior of mothers in seeking treatment

Treatment seeking behavior or health-seeking behavior involves a person's efforts or actions when suffering from an illness or accident. This action or behavior starts from self-medicating (self-treatment) to seeking treatment. Mother's behavior in seeking treatment or efforts to get h elp is by the needs of the illness and other family members that can increase children's vulnerability under five to pneumonia (Indonesian Ministry of Health, 2017).

The study results on the variable of maternal behavior in seeking treatment showed a statistically significant relationship with the recurrence rate of pneumonia in children under five. Toddlers with mothers who have poor behavior in seeking treatment are at 12 times the risk of experiencing recurrent pneumonia. The results of this study are in line with a study conducted by Mohanraj (2019), which stated that 59% of children under five with mothers who behaved poorly by delaying treatment at a health care facility by giving medication at home had a 2.8 times greater risk of developing pneumonia compared to children under five with mothers who behave well in seeking treatment to health services.

Another study was also conducted by Dewi & Wuryaningsih (2015), which stated that 45% of children under five with mothers who were poorly behaved with the first treatment instead of health workers had a 3.9 times greater risk of suffering from pneumonia than children under five with mothers who behaved well in seeking treatment.

2. Mother's Knowledge about Pneumonia

In this study, the respondents' knowledge level was more with the right level of knowledge, namely 31 respondents (66%) . Thus, mothers with the right level of knowledge would more quickly understand and understand the information presented and be responsive to the environment.

The study results on the knowledge variable showed no relationship between maternal knowledge and the recurrence rate of pneum onia in children under five. This result is in line with a study conducted by Unicef (2016), which stated that there was no significant relationship between maternal knowledge and the incidence of pneumonia in children under five.

Another study conducted b y Dewi & Wuryaningsih (2015) also stated no relationship between knowledge and pneumonia incidence in children under five. This result is different from the research conducted by Winarsih (2018) , which states a relationship between maternal knowledge and the incidence of pneumonia in children under five.

This shows that mothers' right level of knowledge does not necessarily have a good knowledge regarding information related to pneumonia, so it is necessary to increase knowledge regarding symptomatic signs, prevention, and proper treatment of pneumonia through learning media such as posters, leaflets, and so on as an effort. To deliver information continuously and periodically to the public. The importance of knowledge is also referred to as behavioral capability , which talks about the knowledge and skills needed to arrive at certain behaviors (Nugroho, 2015).

3. Service Access

The analysis results on the service access variable showed no relationship between service access and the recurrence rate of pneumonia in children under five. This study's results are in line with Krisnanto (2016) research, which stated that access to services was not related to the incidence of pneumonia in children under five. Another study was also conducted by Januar & Adi (2016) , which stated no statistically significant relationship between access to health services and compliance with under-five pneumonia visits.

The absence of a relationship between access to services and the recurrence rate of pneumonia in children under five was influenced by the high percentage of respondents who

had access to useful services, namely 93.6%. This study shows that most respondents in this study have had access to satisfying health services to get proper care and treatment for their toddlers.

Affordability of access to health services is whether a person is satisfied or not in receiving health services. According to Niven in Januar & Adi (2016) states that one of the factors that influence a person's compliance in conducting medical visits to health care facilities are enabling factors, which consist of the availability of health facilities, the ease of access to health facilities, and socioeconomic conditions and culture.

The low use of health facilities such as health centers, hospitals, etc. The fault or cause is often attributed to the factor of access to health services (both access to services received from health workers and the distance to health facilities). The affordability of access referred to in this study is seen in terms of respondent satisfaction in getting services by health workers to achieve proper health services according to their needs. The better the service obtained, the easier it will be for the community to make medical visits to health service facilities.

4. Cost of treatment

The analysis results on the variable medical costs showed a relationship between treatment costs and the recurrence rate of pneumonia in children under five. Toddlers with mothers who cannot afford medical expenses are 11 times more likely to experience recurrent pneumonia than toddlers with mothers who can afford medical expenses. The results of this study are supported by Napirah (2016) research, which states that there is a relationship between medical costs and the community's utilization of health services.

Research conducted by Ngocho (2020) stated that 28.8% of children under five do not have health insurance. More than a quarter of children under five with pneumonia were not taken to a health service facility. According to Levesque in Ngocho (2020) medical cost is the ability of a person to pay or the costs incurred in seeking treatment to obtain appropriate health services according to their needs. (Wulandari, 2019), The use of drugs in toddlers with pneumonia significantly affects the costs incurred by toddlers' parents. The lower the cost and the higher the effectiveness, the easier it is for parents to bring their children to seek treatment at existing health service facilities (Wulandari, 2019).

The research conducted by Su-Jin Cho (Rahmayani, 2016) stated that the cost of medical treatment (with health insurance / free and without health insurance / paid) was related to non-compliance with revisiting health services in Korea. In their research, 91% of respondents had health insurance for free return visits, while 9% made paid return visits. In this study, it was also found that respondents who made free return visits would be more obedient (85%) to make repeat visits than respondents who were not compliant (15%). This means that treatment costs can affect one's compliance in revisiting health services (Rahmayani, 2010).

According to (Dipiro et al. l in Wulandarai, 2019) , cost-effectiveness analysis is an analysis in pharmacoeconomics that can be used to determine which intervention is the most efficient (treatment) with the minimum cost to achieve the desired outcome by comparing two or more treatment interventions there (Wulandari, 2019). De Jong et al., In (Nugroho, 2015) stated that in their research on one-year-old children with ARI in the Netherlands, they also reported that differences in socioeconomic status were not a determinant factor in health care seeking behavior which might be caused by parental participation in the health insurance program. The cost of medical treatment is a factor that influences a person or parents' behavior so that it can cause ARI in toddlers (Nugroho, 2015).

5. Residence Distance

The result analysis of the variable of residence distance shows no relationship between residence distance with the recurrence rate of pneumonia in children under five. This study's

results are supported by Nugroho's (2015) research, which states that there is no relationship between residence distance and the incidence of pneumonia in toddlers (Nugroho, 2015).

Toddlers with mothers who live far away (more than 2 km) from health care facilities have a risk of experiencing pneumonia four times greater than toddlers with mothers who live closer to health service facilities. The magnitude of the risk arising from the distance of residence is supported by research conducted by Purwanti in (Dewi and Wuryaningsih, 2015), which stated that mothers who had a perception of distance between places of residence that were far from the Public health center were three times more likely to suffer pneumonia than mothers who had a perception of the distance between places of residence that were far from the Public health center (Dewi and Wuryaningsih, 2015).

In developing countries, several factors were associated with delays in seeking treatment, including financial problems, physical access, costs, opportunities, and health and demographic factors (Capuno, 2019). Focusing on Asia, Cai et al. (2015) argue that income, travel time/distance to health facilities, rural residence, unemployment status , and gender (male) are significantly correlated with a delay in seeking diagnosis and treatment of pneumonia (Cai, 2015) . In Indonesi a, the accessibility of health care providers is also an actual reason for the delay in seeking treatment in children under five with pneumonia symptoms (Kassile, 2014).

According to Andersen (Dewi and Wuryaningsih, 2015) states that the distance factor can affect the pattern of health service use . This means that mothers with difficult health service facilities are more at risk of not going to the health service facilities (Dewi and Wuryaningsih, 2015). Based on this, efforts to control pneumonia should be carried out through the Public health center and other parties, such as independent practicing midwives, Integrated Healthcare Center cadres, and other health workers.

CONCLUSION

There was a relationship between maternal behavior in seeking treatment with the recurrence rate of pneumonia in children under five. Treatment costs and distance of residence have a relationship with the recurrence rate of pneumonia in children under five. The mothers who had poor treatment -seeking behavior had ten times the risk of experiencing recurrent pneumonia in their children compared to mothers who had good behavior in seeking treatment for pneumonia. Toddlers with mothers who cannot afford medical expenses are at risk of experiencing recurrent pneumonia nine times. I n comparison, toddlers who live far from health care facilities are at risk of experiencing recurrent pneumonia seven times.

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