Relationship Characteristics Of Balita And Family Behavior In Balita With Pneumonia Events In Work Area Health Muara Bungo II Bungo District 2015

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ABSTRACT

Pneumonia is a major killer of children under five years of age (children) in balita (below five year-old children) in the world, compared to other diseases such as diarrhea, measles, malaria and AIDS. In 2012 Indonesia was the highest order of the 6th pneumonia in developing countries with a prevalence of 6.0% . Bungo is one of the districts with the highest prevalence of pneumonia in Jambi Province in 2014 amounted to 10.4 %.

The objective of the research was to analyze the correlation of balita's characteristics and family health behavior with the incidence of pneumonia in balita. The research was observational analytic with case control design. It was conducted in the working area of Muara Bungo II Health Centre, Bungo District from April, 2014 until January, 2015. The population was mothers who had 0 to 5 year-old children. There were 110 balita who were divided into two groups (55 balita in the case group and the other 55 balita in the control group). The data were analyzed by using univatriate analysis and bivatriate analysis with chi square test at the significance level of 95% (p < 0.05).

The result of the research showed that the variables which had the correlation with the incidence of pneumonia were immunization status (p-value= 0.006, OR= 0.336), knowledge (p-value= 0.022, OR= 0.412), attitude (p-value= 0.000, OR= 0.147), and action (p-value= 0.001, OR= 0.250). The variables which did not have any correlation with the incidence of pneumonia were age (p-value= 0.699, OR= 0.861) and birth weight (p-value= 0.084, OR= 0.512).

It is recommended that the District Health office of Bungo District provide counseling through health care providers at Muara Bungo II Health Centre and education for families, especially mothers who had balita, to participate in posyandu activities so that they understand how to prevent from pneumonia in balita. Besides that, healthy life behavior and clean environment should be improved so that prevention can be done.

Keywords: Family Behavior, Pneumonia, Balita

PRELIMINARY

Pneumonia is an acute infection of the lung tissue (alveoli) are usually caused by the entry of germs, which is characterized by clinical symptoms of cough, high fever, accompanied by rapid breathing or lower chest wall attraction into. Pneumonia is a major killer of children under five years old (toddlers) in the world, compared to other diseases such as diarrhea, measles, malaria and AIDS.[1]

According to (WHO) in 2012, Pneumonia is one cause of death in children worldwide. Every year, pneumonia kills about 1.6 million children under five, or approximately 14% of all under-five deaths worldwide. This figure is higher than of deaths due to HIV / AIDS as much as 2%, 8% malaria, and measles 1%. The data illustrate the risk of death of children under 5 years of age took place during the neonatal period is 28 days of life (40%) include premature birth, birth asphyxia and infeksi2. From the end of the neonatal period up to the first five years of life, the main causes of death are pneumonia, diarrhea, malaria, measles and HIV / AIDS. Malnutrition is the underlying factor of more than a third of all deaths of children that make children more susceptible to disease.[2]

Asia-Pacific region is estimated as many as 860,000 children under five die each year, or approximately 98 children die every hour.

Pneumonia is the number one predator under five in developing countries. The death generally is due to pneumonia in infants aged less than 2 months.2 Fifteen countries with the highest number of new cases of pneumonia are India

43.0%, China 21.1%, Pakistan 9.8%, Bangladesh 6.4% Nigeria 6.1%, Indonesia 6.0%, 3.9% Ethiopia, Congo 3.9%, Vietnam 2.9%, Philippines 2.7%, 2.0% Sudan, Afghanistan 2.0%, Tanzania 1 , 9%, Mianmar 1.8%, Brazil 1.8%.[3]

Pneumonia in Indonesia is the third cause of death after cardiovascular and tuberkulosis.[4] pneumonia in children under five mortality rate is estimated at 21%. More than 400 children die every day in Indonesia, are the children of the poor and the most marginalized, and many of them become victims of diseases easily preventable and treatable as pneumonia and diarrhea.

According to data from Health Research Association (Riskesdas) in 2013 morbidity of 2.2% pneumonia in infants, toddlers 3%, while the death of pneumonia in infants and young children 29.8% 15.5% .[2] The infant mortality rate caused by the disease a public health problem the main people who contribute to the high mortality rate that is Pneumonia 15.5%, 10.7% enterocolitis, meningitis 8.8%, 6.8% of dengue fever, measles 5.8%, Sink 4.9%, 3.9 TB %, 2.9% Malaria, Leukemia 2.9% and others 12.6%.[4]

Pneumonia is caused by germs, viruses, bacteria, fungi, malnutrition, immune system is low, do not drink the milk, which can simplify the environment penyakit.[3] low socio-economic factors increases the mortality rate. The main cause of pneumonia in children under five are bacteria, is the most common bacterial pneumonia caused by the bacteria streptococcus pneumonia.[5] streptococcus pneumonia, 50% of the number of deaths of children under five worldwide and 30% by Haemophylus Influenza type B (Hib), the rest are viruses and other causes , The high incidence of pneumonia is inseparable from risk factors for pneumonia.[5]

Pneumonia risk factors associated with Host, Environment, Agent include malnutrition, Newborn Low (LBW), breastfeeding, lack of immunization, air pollution inside the home and home density. Another risk factor is the possibility of parents who smoke, a zinc deficiency, mother's experience as a nanny, penyertai eg diarrheal diseases, asthma, maternal education, child care, humidity, ventilation house, environmental pollution.[7] Pneumonia is an inflammation of the lungs caused by bacteria with

symptoms of high fever with a productive cough, rapid breathing (breath frequency> 50 breaths / min), tightness, and other symptoms (headache, restlessness and poor appetite).[3]

According to data from Indonesia Demographic Health Survey (IDHS) in 2012 by BPS, BKKBN, and the Ministry of Health, pneumonia and diarrhea referred to as the number one killer in children under the age of five. Morbidity (morbidity) pneumonia in infants and toddlers is 2.2% 3%, while the death rate (mortality) in infants and young children 23.8% 15.5%.[6]

To accelerate achievement of the Millennium Development Goals (MDGs) in 2015, Indonesia will reduce mortality of 2/3 or approximately 31/1000 KH. Ministry of Health to provide a method of an integrated approach to child health services called Integrated Management of Childhood Illness (IMCI) with the aim of improving the quality of services, and the action plan Global for the Prevention and Control of Pneumonia (GPPP) which aims to reduce deaths from pneumonia in children under the age of 5 years by 65% by 2015, and reduce the incidence of severe pneumonia by 25% in children under 5 years of age. Goals to be achieved by the end of 2015, 90% immunization coverage of all programs associated (with 80% coverage in every district, and 90% access to appropriate pneumonia case management, and 90% coverage of exclusive breastfeeding during the first six months of life.[3]

According to the Health Profile of Jambi province in 2012, the mortality rate was 3.2% the number of children who die before reaching age 5. Jambi Province consists of 11 districts / cities, one of which is Bungo. Based on reports from the health service unknown number of infants who died in Jambi province in 2012 that 49 children under five years, from eleven districts in the province of Jambi number of under-five deaths occur most commonly in the city of Jambi to the number of 11 children under five years and in the district of Bunge with the number 2 toddler.[8]

According to the District Health Office Profile Bunge in 2013 the incidence of pneumonia included in the third of eleven districts in Jambi province. With the number of infants 303 757, and the approximate number of 30 698 patients with pneumonia in infants

seprovinsi Jambi. Bungo has 17 districts and 18 health centers with the number of infants 31 761 and the number of patients with pneumonia 3176 and patients are found and dealt with 1,111 children under five 35.0% and one district that the incidence of pneumonia in children under five are still contained in the District Bungo Dani Puskesmas Muara Bungo II, namely the amount of 2,640 infants and toddlers 254 the number of patients with pneumonia and all handled by health personnel.[9]

Bungo has one Regional General Hospital and three Private Hospital, 18 health centers and 57 BPS / Clinic. Of the 18 health centers located in Bungo still high incidence of pneumonia that is contained in Puskesmas Muara Bungo II consists of five villages, namely: Charcoal River Village, Talang Beach, Sungai Pinang, Pulau week and Kerjan River. In 2013, the carrying infants and toddlers are exposed to pneumonia 254 toddlers, and in the last three months ie April 18 infants, toddlers May 16 and June 21 infants and toddlers are exposed to a total of 55 infant pneumonia.[9]

Puskesmas Muara Bungo Bungo II, including the District of Dani, most of the families have children over 3 with a spacing of less than two years, the average education level of elementary predominantly work as farmers. Based on the MSE (Minimum Wage District) Bungo 2014 amounted to Rp 1,300,000 / month for a period of 7 hours a day and 40 hours a week. Community health centers in the region of its income on average <Rp 1.300.000, - / month in the last few years due to the sales price of rubber and palm decline and rising fuel prices. His father worked as a farmer set off early and come home late in the evening, the mother who worked as a farmer, with activities in the fields all day from morning until late afternoon, so often children left at home along with a sister or brother, and the children play and feed themselves without supervised by an adult.[9]

In Padmonobo research in Bradford in 2012 about the physical factor home with pneumonia in infants include intrinsic, extrinsic and behavior. Intrinsic factors such as age, immunization status, nutritional status, and breastfeeding. Extrinsic factors such as home environment consists of housing components that support the creation of a healthy home such as a wall, floor ventilation and natural lighting and occupant density. Behavioral factors include knowledge, education and habits.[10]

The initial survey that researchers do with observation and interviews with 10 mothers who have children in Puskesmas Bunge Dani II publicly viewable environment family health still exist on the condition of the house the family of children patients in general does not meet the requirements of health and health behaviors family like air vents homes are not eligible, the density of dwelling, use of mosquito coils, fuel for cooking (wood stove), family habits smoking (indoor air pollution) and in the district that also contained a palm oil factory that is still active for the palm oil processing, smoke and the former mill waste it disturbs the air pollution and the environmental community in Puskesmas Bungo Dani II.

Based on the background that has been presented so that the formulation of the problem is whether there is a relationship characteristic of a toddler and family health behaviors with the incidence of pneumonia in children under five in Puskesmas Muara Bungo Bungo II in 2015. The research objective is to analyze the characteristics of a toddler and family health behaviors with the incidence of pneumonia in children under five in Puskesmas Muara Bungo Bungo II in 2015.

RESEARCH METHODS

This type of research conducted observational-analytic study was conducted by using a case-control study design approach (case-control), which aims to analyze the relationship of family health behaviors with pneumonia in infants who use a retrospective approach.[11]

The study was conducted in Puskesmas Muara Bungo Bungo II in April 2014 and February 2015. The study population was all children affected by the disease by 55 the number of children under five. Sample case is all infants diagnosed with pneumonia by 55 toddlers. The control samples are children who do not suffer from pneumonia with the number set to 1: 1 with sample cases as many as 55 toddlers. The total sample of 110 toddlers. The sample group in this study consisted of two (2) groups: group case and control.12

The data used are primary and secondary data. Bivariate data analysis conducted with statistical Chi-Square test, with significance level (α) used is 0.05

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RESULTS AND DISCUSSION
Univariate Data Analysis

Results showed maternal characteristics most number of children in the case group was 4 people, which is about 13 families (23.6%), and the fewest number of children are 1, 8 and 10, as many as 1 family (1.82%) , In the control group of children at most two people as many as 20 families (36.4%), and the fewest number of children are 9 people that as many as 1 family (1.82%).

The results of the study of knowledge of mothers in the case group showed that most knowledgeable about as many as 34 people (61.8%). In the control group the majority of knowledgeable good mother as many as 33 people (60.0%).

Mother's attitude research results in the case group showed that most of the negative attitude many as 49 people (89.1%). In the control group mothers largely negative attitude many as 30 people (54.5%).

Results of action research mothers in the case group showed that most of the action is not good as many as 40 people (72.7%). In the control group mostly good mother acts as many as 33 people (60.0%).

BIVARIATE ANALYSIS

Analysis of the results using the chi-square test showed that the toddler age there is no connection with the incident pneumonia in infants in Puskesmas Muara Bungo Bungo II, p = 0.699> 0.05, while the value of OR = 0.861 (95% CI = 0.403 to 1.838), because the value of OR <1 then the toddler age is not a risk factor for the incidence of pneumonia in infants.

Table 1. Relationship Age Toddler with Genesis Pneumonia in Toddlers

age Toddler	Genesis Pneumonia				amount		P	OR (95%CI)
	Case		Control					
	n	%	n	%	N	%		
≤ 2 month	22	47,8	24	43,6	46	41,8		0,861
2 month s/d <5 year	33	51,6	31	56,4	64	58,2	0,699	(0,403-1,838)
Total	**55**	**100**	**55**	**100**	**110**	**100**		

Relations toddler age with pneumonia using statistical Chi-Square test showed no correlation with the incidence of pneumonia, where the p-value = 0.699> 0.05, the mean age of a toddler in the working area of Puskesmas Muara Bungo Bungo II there is no connection with the incident pneumonia in infants. Values obtained 0.861 Odds Ratio (95% CI = 0,403- 1,838) means the toddler age very risky ≤2 months with pneumonia, compared to toddlers aged ≥2 months this is caused because children under 2 months of imunnitasnya rudimentary and respiratory tract still relatively narrow.

The prevalence of pneumonia was higher in the younger age groups. The results are consistent with research Gani, entitled Strategies Decrease in Incidence of Pneumonia in Childhood in District Banyuasin III and Betung South Sumatra in 2004, to get the result that there is no correlation between age infants with pneumonia in infants known statistical result in getting p-value = 0.210, where P> 0.05. This shows that there is no relationship between the age of infants with pneumonia in children under five in the district of South Sumatra[15.]

Age infants $\leq$ 2 months is very risky with pneumonia, compared to toddlers aged $\geq$ 2 months this is caused because the child imunnitasnya $\leq$ 2 months has not been perfect and respiratory tract remains relatively narrow. The prevalence of pneumonia was higher in the younger age groups. $\geq$ toddlers ages 2 months to 5 years is a period of child development could be disrupted if the parents or the family does not maintain a healthy environment and the provision of a good nutritional status in children under five .

TABEL 2. RELATIONSHIP WITH GENESIS PNEUMONIA IMMUNIZATION IN TODDLERS

| Immunization | Genesis Pneumonia | | | | amount | | *P* | OR (95%CI) |
| | Case | | Control | | | | | |
	n	%	n	%	N	%		
Complete	38	69,1	27	49,1	65	59,1		0,431
Incomplete	17	30,9	28	50,9	45	40,9	0,033	(0,198-0,940)
Total	**55**	**100**	**55**	**100**	**110**	**100**		

The results of the research relationship with the incidence of pneumonia immunization using statistical Chi-Square test showed that immunization significantly associated with the incidence of pneumonia, p-value = 0.033 <0.05, while the value of OR = 0.431 (95% CI = 0.198 to 0.940), because the value of OR <1 then the immunization is not a risk factor for pneumonia. Age infants in the case group showed that the majority of incomplete immunization of infants (72.7%). In the control group the majority of full immunization (52.7%).

In line with research conducted by Gani entitled Strategies Decrease in Incidence of Pneumonia in Childhood in District Banyuasin III and Betung South Sumatra in 2004, that the immunization status of incomplete associated with an increased risk of developing pneumonia in infants, children under five suffering from pneumonia, likely due to the relationship status basic immunization was incomplete so that the proportion of children under five with incomplete immunization in the case group were 69% and 30% control, it certainly proves that immunization was significantly associated with the incidence of pneumonia (p = 0.000) p <0.05, meaning that children under five who suffer pneumonia likely due to the influence of basic immunization status is incomplete.

Mothers who have children should be obliged to provide full immunization to the babies, so that toddlers are not easily susceptible to disease and interfere with growth and development of babies. Mother and family must be willing and understand the benefits of immunization in infants, following the Posyandu activities. Health workers should provide counseling and education to mothers about the health of families and toddlers that problem morbidity and mortality of infants and young children can be lowered.

Table 3. Relationship with birth weight incidence Pneumonia in Toddlers

| Birth Weight | Genesis Pneumonia | | | | amount | | *P* | OR (95%CI) |
| | Case | | Control | | | | | |
	n	%	n	%	n	%		
$\leq$ 2500 gram	20	36,4	29	52,7	49	44,5		0,512
$\geq$ 2500 gram	35	63,6	26	47,3	61	55,5	0,084	(0,239-1,099)

	Total	55	100	55	100	110	100

Birth weight relationship with the incidence of pneumonia using statistical Chi-Square test showed that birth weight was no significant correlation with the incidence of pneumonia, p-value = 0.084 <0.05, while the value of OR = 0.512 (95% CI = 0.239 to 1.099), because the value of OR> 1 then the birth weight is not a risk factor for pneumonia. Birth weight in the case group showed that most infants birth weight ≥ 2,500 g (63.6%) compared to ≤ 2500 grams (36.4%). In the control group largely birth weight infants ≤ 2500 grams (52.7%). This incident is likely due to that the birth weight> 2,500 g pneumonia by a factor of nutritional status, immunization status and supplemental feeding early.

In line with research conducted by Gani entitled Strategies Decrease in Incidence of Pneumonia in Childhood in District Banyuasin III and Betung South Sumatra in 2008, the results of statistical tests found that toddlers with BBL <2,500 g no correlation with the incidence of pneumonia and is not a risk factor the incidence of pneumonia in Banyuasin (OR = 0.78). This incident may be due to that toddlers birth weight> 2,500 g suffered from pneumonia caused by factors of malnutrition (84.7%), non-exclusive breastfeeding (81.6%). Status of incomplete immunization (69%) and supplementary feeding early (81.6%) resulting in lower child's immune system and thus susceptible to respiratory infections and factors of pollution furnaces (74.5%), cigarette smoke (82.7%), and housing solid (80.6%), which allows toddlers constantly exposed to chemicals of combustion and is a good place for bacteria to multiply and spread rapidly to the family members, especially children under five with low body resistance.[13]

Table 4. Relationship with Genesis Knowledge Pneumonia in Toddlers

Knowledge	Genesis Pneumonia						P	OR
	Case		Control		amount			(95%CI)
	n	%	n	%	n	%		
Good	21	38,2	33	60,0	54	49,1		0,412
Less	34	61,8	22	40,0	56	50,9	0,022	(0,191-0,886)
Total	55	100	55	100	110	100		

Relations with pneumonia knowledge using statistical Chi-Square test showed that knowledge significantly associated with the incidence of pneumonia, p-value = 0.018 <0.05, while the value of OR = 0.412 (95% CI = 0.191 to 0.886), because the value of OR < 1 then knowledge is not a risk factor for pneumonia. Knowledge mothers in the case group showed that most knowledgeable poor (61.8%). In the control group mothers mostly good knowledge (60.0%).

Knowledge can know if someone has been associated with these objects, most of the knowledge can be gained from seeing and hearing. Knowledge is the beginning of the introduction of an object being observed, so if the knowledge is less well against an object it will affect the actions to be performed.[14] this study are consistent with studies of Muchlis13 Relationship factors of the physical environment of the house with the incidence of pneumonia in infants IRNA Children RSMH Palembang, get the result that there is a relationship between the mother's knowledge with the incidence of pneumonia in infants in mind that the results of the analysis of the proportion of respondents who have less knowledge good with pneumonia as many (28.6%) while those with a good knowledge of the incidence of pneumonia as many (23.8%) and who have sufficient knowledge of the incidence of pneumonia (66.7%). Statistical test results obtained p-value = 0.043, where p <0.05. This shows that there is a relationship between the mother's knowledge with the incidence of pneumonia in infants at Children's Hospital IRNA Dr. Mohammad Hoesin Palembang.

This is in line with research Kartini[15] Relationships knowledge attitudes, actions mothers in the care of supporting home on infant

pneumonia in the working area health centers Wonoayu, which states that the higher a person's knowledge of the disease pneumonia then the incidence of pneumonia that occur will be lower, and vice versa if a person has a low knowledge about pneumonia , then the incidence of pneumonia terhadi will be higher.

Table 5. Relationship Attitude with Genesis Pneumonia in Toddlers

Attitude	Genesis Pneumonia				amount		*P*	OR (95%CI)
	case		Control					
	n	%	n	%	n	%		
Positif	6	10,9	25	45,5	31	28,2		0,147
Negatif	49	89,1	30	54,5	79	71,8	0,000	(0,054-0,399)
Total	**55**	**100**	**55**	**100**	**110**	**100**		

Relations with the attitude of pneumonia in infants using statistical Chi-Square test showed that attitude significantly associated with the incidence of pneumonia, p-value = 0.011 <0.05 while OR = 0.348 (95% CI = 0.149 to 0.814), as OR <1 the attitude is not a risk factor for the incidence of pneumonia. The attitude of mothers in the case group showed that most of the negative ones (80.0%), and the control group largely positive mothers (58.2%).

Attitude is a reaction or response which was still closed from a person to a stimulus or object. Attitude is not an act or activity but predisposes action behavior. That attitude is still a closed reaction, not an open reaction or behavior that is open. Attitude is a readiness to react to certain objects in the environment as an appreciation of the object.[18]

The results are consistent with research that examines Muchlis in Palembang RSMH Kids

IRNA obtain analytical results of respondents who have a negative attitude to the incidence of pneumonia as many (62.5%) while having a positive attitude with the incidence of pneumonia in infants as much (20.8%). The results of the statistical test p-value = 0.02 where p <0.05. This means that there is a relationship between mother attitude with pneumonia in infants. The better the mother's attitude toward the child's health, it will reduce the risk of pneumonia in infants. Conversely, if the worse the mother's attitude towards their children's health, then the risk of pneumonia in children under five will be higher[13].

Mother's attitude towards children is a custom of the mother of the babies in everyday life, the attitude of the mother is also influenced by the environment. Attitudes show of agreement or tidaksetujuan, like or dislike someone for something[17].

Table 6. Relationship action with Genesis Pneumonia in Toddlers

Action	Genesis Pneumonia				amount		*P*	OR (95%CI)
	Case		control					
	n	%	n	%	N	%		
good	15	27,3	33	60,0	48	43,6		0,250
Not good	40	72,7	22	40,0	62	56,4	0,001	(0,112-0,557)
Total	**55**	**100**	**55**	**100**	**110**	**100**		

The results using Chi-Square test showed that significant measures relating to the incidence of pneumonia in young children, the value of p =0.001 <0.05,while the value of OR = 0.250 (95% CI = 0.112 to 0.557), because the value of OR <1 then a good action is a protective factor / protective against pneumonia in infants.

The results are consistent with research Muchlis who studied at IRNA Children RSMH Palembang get a result there is a connection between the actions of the mother with the incidence of pneumonia in infants acquired the proportions of respondents good action with the incidence of pneumonia in infants as much (19%) while those with action that is not good as (57.9%). The results of the statistical test p-value = 0.027, where p <0.05. This shows that there is a relationship with the mother acts of pneumonia in infants. The act or practice of the activities undertaken by the respondent in the prevention of pneumonia[13].

Human behavior is all the activities and human activities, both of which can be experienced directly, and that can not be observed by outsiders. formulating that action is a response or a person's reaction to a stimulus (stimuli from the outside). Therefore, this action occurs through the process of their stimulus to the organism or knowledge, and then these organisms respond or take a stand.[18]

Research implications
The implication that can be formulated from the research findings and the facts are as follows:
1) Family and society
2) Reproductive Health Sciences

Research limitations
This research is a quantitative research simply using bivariate statistical tests, so it is limited to exploring the full range of factors that affect the incidence of pneumonia in infants. Difficulties in finding the characteristics of mothers who have children the same, that among mothers who have children cases and mothers of control infants, especially in terms of age infants and equated with birth weight.

CONCLUSION
The results of the study of family health behaviors relationship with the incidence of pneumonia in children under five is nothing to do with knowledge, attitudes, actions and immunization status.

SUGGESTION
The District Health Office Bungo, suggested the need to develop a strategic plan with the response to cases of pneumonia in infants in the long term, health workers in health centers to more actively conduct outreach and provide education to families, especially the mothers with toddlers on signs and symptoms and prevention the incidence of pneumonia in infants.

Working closely with community organizations such as Posyandu cadres, prayer groups to improve the knowledge of families, especially mothers who have children about the importance of handling pneumonia in infants.

Mother to follow the development of health information, especially regarding infant health either through counseling or from print and electronic media and has always been active in following Posyandu activities.

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