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# Correlation of Environmental Sanitation and Pneumonia in the Working Area of Clinic Central Bengkulu District

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Abstrack: Bengkulu Tengah Regency in 2017, most of the diseases suffered by the community in general are lung inflammation caused by cough symptoms, lung inflammation ranks the highest disease at the visit of puskesmas in Central Bengkulu Regency with vulnerability. The research objective was to analyze the relationship between environmental sanitation and pneumonia in children aged 1-5 years in the work area of the Bengkulu Tengah District community health center. This type of research is analytic observational research. This study is a study that explains the relationship between variables through testing hypotheses. The research design used is a case-control studies (retrospective) and (Cause effect relationship) research design so that researchers can learn how far the risk factors influence the occurrence of the effects. The results of this study show that four exposure risk factors that have an effect on Pnumonia are that home ventilation has a risk of suffering from pneumonia 2.1 times, which results in normal home standards and airspace as a factor in pneumonia in breathing air which results in exposure to pneumonia. the house ceiling that doesn't exist has the risk of suffering from pneumonia 1.3 times which results in the ceiling of the house that is not exposed to dust caused by falling and inhalation and causing exposure to pneumonia, dense residential density has a risk of suffering pneumunia 2.1 times, which is caused the number of one family head numbered more than 5 families which resulted in overcrowding in a house.

Keyword: Pneumonia, Toddler and Environmental Sanitation.

## I. INTRODUCTION

Pneumonia in Indonesia is a big challenge because it is a case that often occurs. Pneumonia is inflammation of the pulmonary parenchyma caused by bacterial microorganisms, viruses, parasitic fungi. Pneumonia is also caused by chemicals or due to physical exposure such as temperature or radiation[2]. Central Bengkulu Regency is a district where most of its people are low-income and the average job is a farmer with a maximum education of high school. In addition, this district is also a measure of poverty in Bengkulu Province after Seluma District, because newly developed pemekaran districts. In other words, poverty is a problem in Central Bengkulu Regency with the low value of life in an area, both in urban and rural areas, both concerning moral, material and spiritual issues in Bengkulu Tengah District. Most people live in a house with a ground floor. and occupancy density that is not suitable for health.[1] Occupancy density in Bengkulu Regency Middle poverty is related to patient visits in Health Facilities. 12 Patients who go to the Clinic are 40-60%, while the percentage of patient visits in the hospital is around 15-20%, based on the above phenomenon, the authors feel interested in doing research about "the relationship of environmental sanitation with pneumonia in infants in the working area of Central Bengkulu District community health center" with the aim of Analyzing the relationship of environmental sanitation to pneumonia at the age of 1-5 years in the work area of Central Bengkulu District community health center.[6]

## II. METHOD

This type of research is analytic observational research. This study is a study that explains the relationship between variables through testing hypotheses. The design of the study used a case-control studies (retrospective) research design is the design of studies that begin with the presence of impacts and then look back to find the causes of using controls, case control research designs can be used to assess the role of risk factors. disease (Cause effect relationship) so that researchers can learn how far the risk factors affect the occurrence of effects[3].

## III. RESULT

Analysis of the relationship between independent variables and dependent variables. The next step is to prove whether there is significance between independent variables and confounding variables on the dependent variable, namely testing the relationship between,[4] types of housing, ventilation area, house ceiling, kitchen fumes, occupancy density and respiratory tract infections with pneumonia[7].

Table Distribution of Respondents from the research results

| No | Carekter | Case | | Control | | Total | |
|---|---|---|---|---|---|---|---|
| | | n (36) | % | n(30) | % | n (66) | % |
| | Type of House | | | | | | |
| | Permanet | 1 | 2,7 | 28 | 93,3 | 29 | 43,9 |
| | Not Permanent | 35 | 55.5 | 2 | 6,66 | 37 | 56,0 |
| | The Existence Of the Ceiling of the House | | | | | | |
| | There is | 4 | 11,1 | 5 | 16,6 | 9 | 13,6 |
| | There Is No | 32 | 88,8 | 25 | 83,3 | 57 | 86,3 |
| | Occupancy Density | | | | | | |
| | Less then 5 Femilies | 20 | 55,5 | 10 | 33,3 | 30 | 45,4 |
| | More then 5 Families | 16 | 44,5 | 20 | 66,6 | 36 | 54,5 |

Source: administration of Talang Empat Health Center in 2018

From the table above, the most influential are 35 types of non-permanent housing with a percentage of 55.5%, the average type of house made from boards and bamboo braids so that the type of house is very influential on pneumonia in infants, the presence of a house ceiling, there were as many as 32 cases with a percentage of 88.8%, the population did not use the ceiling of the house or the ceiling caused by inhaled dust from the ceiling of the house that did not exist, occupancy density, more than 5 families as many as 16 cases average in 1 household consists of 5-8 employees in 1 house[8].

Table 3.2 Distribution of Respondents from the research results

Tabel Distribution Responden research results

| No | Carekter | Case | | Control | | Total | |
|---|---|---|---|---|---|---|---|
| | | n (30) | % | n(36) | % | n (66) | % |
| | Type of house | | | | | | |
| | Permanent | 5 | 16,7 | 10 | 27,8 | 15 | 22,7 |
| | Not Permanent | 25 | 83,3 | 26 | 72,2 | 51 | 77,3 |
| | The Existence of the Ceiling of the House | | | | | | |
| | There is | 30 | 100 | 6 | 16,7 | 36 | 54,5 |
| | There is no | 0 | 0 | 30 | 83,3 | 30 | 45,5 |
| | The Existence of kitchen smoke expenditures | | | | | | |
| | There is | 22 | 73,3 | 14 | 38,9 | 36 | 54,5 |
| | There is no | 8 | 26,7 | 22 | 61,1 | 30 | 45,5 |

Source: administration of Clinic Ujung Karang in 2018

From the table above, the most influential are 25 types of non-permanent housing with a percentage of 83.3%, the average type of house made from boards and bamboo braid so that the type of house has a significant influence on pneumonia in infants. there were as many as 22 cases with a percentage of 73.3%, so exposure to kitchen fumes and other activities made breathing become congested due to the presence of kitchen smoke out of standard[11].

The results of the next bivariate analysis can be recapitulated and presented in the following table

| No | Factors associated with the incidence of pneumonia | P | OR | (95%) CI |
|----|----|----|----|----|
| 1 | House Type | 0,008 | 1,373 | (0,286-6,595) |
| 2 | Ventilation area | 0,001 | 2,118 | (1,659-2,703) |
| 3 | The existence of the ceiling of the house | 0,003 | 1,373 | (0,286-6,595) |
| 4 | The existence of Kitchen Smoke Expenditures | 0.006 | 4,241 | (1,156-12,392) |
| 5 | Occupancy Density | 0,005 | 2,121 | (0,511-3,623) |

The results of the next bivariate analysis can be recapitulated and presented in the following table

| No | Factors associated with the incidence of pneumonia | P | OR | (95%) CI |
|----|----|----|----|----|
| 1 | House Type | 0,006 | 2,554 | (0,668-4,257) |
| 2 | Ventilation area | 0,005 | 2,331 | (0,521-5,157) |
| 3 | The existence of the ceiling of the house | 0,008 | 2,210 | (0,881-7,777) |
| 4 | The existence of Kitchen Smoke Expenditures | 0,007 | 2,431 | (0,772-2,777) |
| 5 | Occupancy Density | 0,004 | 2,221 | (0,445-2,645) |

## IV. DISCUSSION

The results of this study prove that the four gutter health centers with exposure risk factors that have an effect on Pnumonia are a small amount of home ventilation with air circulation that is not sufficiently at risk of suffering from pneumonia 2.1 times greater than children under five who are standard ventilated and home air space normal as a pneumonia factor in toddlers[9].

The absence of a house ceiling has a risk of suffering from pneumunia 1.3 times greater than that of a toddler who has a home ceiling as a factor in pneumonia in infants and a dense residential density has a risk of suffering from pneumonia 2.1 times greater than with toddlers who have a residential density of less than 5 people as a pneumonia incidence factor in toddlers[10], so that in the four gutters health center obtained Sig value is 0,000 <0,05, then Ho is rejected and accepts Ha Meaning: There is a relationship between home and occupancy and extensive factors ventilation, the presence of the ceiling of the house and the density of occupancy is very strong[12].

Ujung Karang Health Center exposure risk factors that have an effect on Pnumonia are interpreted that toddlers with extensive home ventilation do not have a risk of suffering from pneumonia 2.3 times greater than children under five who live at home with existing ventilation and circulation or standard as a factor in pneumonia. for toddlers and the presence of non-existent kitchen smoke outlet has a risk of suffering from pneumonia 2.4 times greater than that of children under five who have no kitchen smoke discharge holes as a factor in pneumonia in infants, so that the sig value in the reef health center is obtained. 0.002 <0.05 then Ho is rejected and accepts Ha Meaning: There is a relationship between the area of ventilation and the density of occupancy is very strong[13].

## REFERENCES

[1] Widyaningtyas R. Analysis of Risk Factors for Physical Environmental Conditions of Houses with Pneumonia in Toddlers in Kebumen District in 2008, Semarang, 2008.

[2] Arikunto, S. Research procedure: A Practice Approach. (Revised Edition). Jakarta: Rineka Cipta. 2010

[3] Choirunisa. Care for children aged 1-5 years. Yogyakarta: Moncer Publisher.2009

[4] Journal: Aldrich, J.H., (1993). Rational choice and turn out, Bohnet, I., Frey, B.S., and Huck, S. American Journal of Political Science "More order with less law; on contract enforcement, trust and crowding. "American Political Science Review. Byrne, D., Clore, G.l., and Smeaton, G. (1986). "The attraction hypothesis: does similiar attitude affect anything?" Journal of Personality and Social Psichology volume I, 2001.

[5] Kartasasmita ,. Toddler Pneumonia Window Epidemiology Bulletin, 2010

[6] Nurjazuli, Retno Widyaningtyas, Dominant Risk Factors of Pneumonia Cases in Toddlers, J Respir Indonesia. 2009

[7] Suryanto, Relations between Home Sanitation and ISPA Events, 2003

[8] Heru Padmonobo, Onny Setiani, Tri Joko, Physical Environment Environment Factors of Housing and Pneumonia on Children Under Five Years in the Working Area of the Jatibarang Community Health Center, Brebes Regency, Indonesian Environmental Health Journal, 2012

[9] Lina Yulianti, Onny Setiani, Yusniar Hanani D, Factors of House Physical Environment Associated To The Incidence of Pneumonia In Children Under 5 Years, In Working Areas Of Pangandaran Health Center, Ciamis, 2012 volume 2

[10] Masfufatun Juni, Nurjazuli, Suhartono, The Banjarmangu 1 community health center, Banjarnegara District, 2016, the correlation between the quality of the house incidence and pneumonia on volume 1

[11] David Laksamana Caesar, Nurjazuli, Nur Endah W. Relationship between Mount Bacterial Pathogens in the House with Incidence of Pneumonia on Children Under Five Years in Working Areas Public Health Center Banyumanik Semarang, 2015 volume 3

[12] Lenni Arta F.S. Sinaga, Suhartono, Yusniar Hanani D, Analysis of House Conditions as a Pneumonia Event Risk Factor in Toddlers in the Sentosa Baru Community Health Center in Medan City in 2008, volume 1

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