

Stay Home Management on Improving Health Status of Children Tuberculosis Patients in Banjarbaru City

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Submission date: 01-Sep-2020 02:57PM (UTC+0700)

Submission ID: 1377484983

File name: IJPHRD_December_2019_Combined-1819-1823.pdf (423.86K)

Word count: 2904

Character count: 14811

Stay Home Management on Improving Health Status of Children Tuberculosis Patients in Banjarbaru City

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Abstract

Tuberculosis (TB) in the world continues to increase, Indonesia ranks 4th after India (2.0 million-2.5 million), China (0.9 million-1.1 million), South Africa (0.40 million-0.6 million) and Indonesia at 0.4 million-0.5 million cases, 155-222 cases/100,000 population/year (WHO, 2012). The prevalence of childhood TB in Indonesia in 2011 was reported to be 8.8% of the total TB cases and 2-16% at the provincial level (WHO, 2012). Child TB case data from Public Health Office is 8.8% of 3,153 cases, the incidence of TB in South Kalimantan Province is 241 cases/year. Data on child TB in South Kalimantan Province from 2009-2011 found as many as 28 cases with AFB + age 0-14 years. In 2014 and 2015, the proportion of pediatric TB patients found in Banjarbaru City was 10.84% and 8.5% compared to all TB patients.

Housing Health is a matter that must be considered to reduce the risk of TB cases in children because it involves the characteristics of the conditions of the home environment that affect the degree of public health. This study was an intervention study with a cross sectional approach. The study population was children with TB who were recorded and reported to the TB program responsible/executor of the Banjarbaru City Health Office. The sample of this study were all children with TB in the Health care in the Banjarbaru City area in January-December 2018. The results showed that there was no significant correlation between the health of the home environment in the incidence of pulmonary TB in Banjarbaru City children (p -value = 0.883) and there was no significant relationship between houses to increase the health status of children with tuberculosis in Banjarbaru (p -value = 0.419).

Keywords: Tuberculosis children, Management of homes, homes, neighborhoods.

Introduction

Tuberculosis (TB) in the world continues to increase, especially countries that are grouped in 22 countries with large burden of TB (high burden countries) and most have wetland areas so that in 1993 WHO declared TB one of the world's emergencies (global emergency) and as an emergency disease diseases. Indonesia ranks 4th after India (2.0 million-2.5 million), China (0.9 million-1.1 million), South Africa (0.40 million-0.6 million) and Indonesia at 0.4 million-0.5 million cases, 155,222 cases/100,000 population/year¹.

The prevalence of TB in children aged less than 15 years from the UK and Wales national survey in 1983 was 452 cases, in the United States based on a survey of 11 years (1983-1993) 171 cases of child TB were obtained.

Child TB is 15% of all TB cases, while in developed countries it is 5-7%. The prevalence of childhood TB in Indonesia in 2011 was reported to be 8.8% of the total TB cases and 2-16% at the provincial level¹.

Child TB case data from Ministry of Health is 8.8% of 3,153 cases, the incidence of TB in South Kalimantan Province is 241 cases/year. Data on child TB in South Kalimantan Province from 2009-2011 found as many as 28 cases with AFB + age 0-14 years. In 2014 and 2015, the proportion of pediatric TB patients found in Banjarbaru City was 10.84% and 8.5% compared to all TB patients².

Integrated efforts to overcome or break the chain of transmission of TB disease have been carried out but the results are still not maximal and this must consider

the risk factors for TB disease. Risk factors for TB in children closely related to the incidence/incidence of TB are population factors which include the source of transmission, patient contact history, socioeconomic level, level of exposure, bacillus virulence, low endurance related to genetics, nutritional conditions, physiological factors, age, nutrition, immunization, and environmental factors which include the state of the physical environment of the housing (temperature in the house, ventilation, lighting in the house, humidity of the house, density of occupants and the environment around the house) and work³.

¹ Housing health is a matter that must be considered to reduce the risk of TB cases in children because it involves the characteristics of residential conditions that affect the health status of the community. The healthy condition of the home also contributes to achieving public health goals which according to Winslow is prevention disease, prolongation of life, and improvement of mental and physical health and efficiency through improvements to the physical environment of housing (temperature in the house, ventilation, home lighting, house humidity, occupant density and type of house floor) with an integrated management system for residential management.

The results of the study to prevent TB transmission include giving BCG immunization to children according to the schedule, providing nutritious food to maintain children's immunity, giving babies exclusive breastfeeding for a minimum of six months, maintaining cleanliness of the home environment by cleaning the house floor every day, clean the toilet and bathroom, keep air circulation in the house, try to open the windows and doors at home every day so that the room in the house is exposed to sunlight (TB bacteria will die when exposed to the sun), do Clean and Healthy behavior, try children do not come into direct contact with people affected by TB to minimize TB transmission⁴.

Occupancy density is one of the risk factors for TB infection which is more commonly found in groups of subjects who have more than one source of transmission. If housing becomes more crowded, the transfer of infectious diseases through the air will be easier and faster, especially in one house there are family members who are affected by TB, children will be very vulnerable to direct exposure. The number of ¹purces of transmission in one house will increase the risk of TB infection in children. The results of the study in the City

of Brebes showed that there was a relationship between the condition of the home environment (occupancy density) and the incidence of ²TB with a value of p value = 0,000 and OR = 5,168.27 According to Rusnoto et al. (2005) that there was a significant relationship between humidity and pulmonary tuberculosis incidence (OR = 6.3; 95% CI = 2.651-14,971). The results of the Jelalu (2008) study showed that 73.7% of cases of pulmonary tuberculosis in adults in the District Kupang is influenced by 4 variables, one of which is the humidity of the house⁵.

² According to Rusnoto et al. (2005) that there is a significant relationship between the extent of ventilation and the incidence of pulmonary tuberculosis, the results of the odds ratio (OR) of 16.9 with 95% Confidence Interval (CI) 2,121-134,641, with a value of p = 0.001⁵.

Dahlan's (2001) study showed that home ventilation is the most contributing variable that regulates room temperature for the incidence of pulmonary tuberculosis, statistically showing a significant relationship p <0.05 with OR = 8.8 (p = 0,000)⁶.

According to Susiloawati (2012), the incidence of smear positive tuberculosis has a chance or greater risk for people living in a house with positive smear tuberculosis, a house with zinc roofs, extensive ventilation <10% of floor area compared to people who do not live in a house with positive smear tuberculosis, home no zinc roof, ventilation area ≥10% of floor area in the upland area was statistically significant⁷.

² According to Rusnoto et al. (2005) that there are a significant relationship between home lighting and the incidence of ²pulmonary tuberculosis with an odds ratio (OR) of 7.926 with 95% Confidence Interval (CI) (3,129-2(2)80). The housing condition is not sufficiently light and has a ground floor/cracked cement also has a large proportion of pulmonary tuberculosis⁵.

This type of soil floor has a role in the process of pulmonary tuberculosis, through indoor humidity. Ground floor tends to cause moisture, in the summer the floor becomes dry so that it can cause dust which is harmful to its occupants⁸. This is supported by the results of a study by Mahfudin (2006) that the condition of houses with soil floors has a significant relationship with the incidence of pulmonary tuberculosis with OR 2.2 (1,135; 4,269)³.

This is also supported by the results of research by Ruslan et al. (2017), there is a relationship between BCG

immunization status and the incidence of pulmonary tuberculosis in Banjarbaru City (0,000), there is a relationship between house floor area and incidence of pulmonary TB in Banjarbaru City (0,006), there is a relationship between house occupant density and incidence of pulmonary TB in children in Banjarbaru City (0,0006)⁹.

Efforts to get a high TB control work result requires integration from planning to prioritizing financing¹⁰. One of the measurable control systems for infectious disease control is residential management. Residential management is an intervention model to provide an understanding of management of the formation of habitable healthy homes based on the Decree of the Minister of Health of the Republic of Indonesia NO. 829/

Menkes/SK/VII/1999 which consists of requirements for building materials, components and arrangement, lighting, air quality, ventilation, transmitting diseases, water, means of food storage, waste and occupancy density of bedrooms¹¹.

Materials and Method

1 This study was an intervention study with a cross sectional approach. The study population was children with TB who were recorded and reported to the TB program responsible/executor of the Banjarbaru City Health Office.

The sample of this study was all children with TB in the Puskesmas in the BanjarbaruCity area from January to December 2018.

Findings

Table 1: Results of univariate analysis

No	Variable	Category	Frequency	%
1	Number of Family Members	<4	10	33,3
		>4	20	66,7
2	Work	Cool/odd	4	13,3
		Farmers/fishermen	1	3,3
		Trader	8	26,7
		Employees/Civil Servants	13	43,3
		Housewife	4	13,3
3	Long suffering from TB	> 3 weeks	1	3,3
		> 1 month	5	16,7
4	Housing Environmental Health Requirements	Less	6	20,0
		well	24	80,0
5	Healthy House	Un Compatible	7	23,3
		Compatible	23	76,7
6.	Suffering from pulmonary TB	Yes	6	20,0
		Not	24	80,0

Based on the table above, it can be seen that the number of family members <4 is 10 (33.3%) and the number of family members > 4 is 20 (66.7%). While the most work from TB research in Banjarbaru City is Employees/PNS with a total of 13 (43.3%). While the smallest spelling is farmers/fishermen with number 1 (3.3%). the length of time the child has the most TB is > 1 month with 5 people with a percentage (16.7%) and the length of time the child has TB at least > 3 weeks there is 1 person with a percentage (3.3%). respondents who experienced pulmonary TB were found in an environment that did not meet the housing environmental health requirements, namely 6 (20%) respondents. While

respondents who did not experience pulmonary TB were found in an environment that fulfilled the housing environmental health requirements, namely 24 (80%) respondents. Based on the table above, it can be seen that of the 30 (100%) respondents who met the criteria for a healthy home of 23 (76.7%) respondents. While those who did not meet the criteria for a healthy home were 7 (23.3%) respondents.

Based on the table it can be seen there are 6 (20%) respondents who suffer from pulmonary TB. While there were 24 (80%) respondents who were known not to have pulmonary TB.

Table 2: Analysis Bivariat

Variable	TB incidence				P-Value	OR (95% CI)
	Suffering from TB		Not suffering from TB			
Residential home	n	%	n	%	0,419	1,900
Qualify	4	17,4	19	82,6		
Not Qualify	2	28,6	5	71,4		
Home Environmental Health					0,833	2,50
Less	2	33,3	4	66,7		
Well	4	16,7	20	83,3		

Based on the findings in the field, out of 24 (100%) respondents with good Environmental Health, there were 4 (16.7%) respondents who suffered from pulmonary TB. This can occur because a good Home Health Environment does not guarantee that it is far from all aspects of the disease, especially pulmonary TB.

Chi Square test results with a confidence level of 95% to see a relationship between Home Environmental Health on the incidence of pulmonary TB in children in Banjarbaru City found that the p-value = 0.883. From the p-value value in the results of the statistical test, Ho's decision was accepted ($p > 0.05$), which means that there was no significant relationship between Home Environmental Health and the incidence of pulmonary TB in children in Banjarbaru City

Based on the table above, respondents who suffer from pulmonary TB are more prevalent in respondents who have houses that meet the requirements, namely as many as 4 (17.4%) respondents compared to those whose houses do not meet the requirements, namely as many as 2 (28.6%) respondents.

Chi Square test results with a confidence level of 95% to see the existence of residential relationships to an increase in health status of children with TB in Banjarbaru city showed that the p-value = 0.419. From the p-value values in the results of the statistical test, Ho's decision was accepted ($p > 0.05$) which means that there was no significant relationship between houses to improve the health status of children with TB in Banjarbaru City.

Discussion

Chi Square test results with a confidence level of 95% to see the existence of residential relationships

to an increase in health status of children with TB in Banjarbaru city showed that the p-value = 0.419. From the p-value values in the results of the statistical test, Ho's decision was accepted ($p > 0.05$) which means that there was no significant relationship between houses to improve the health status of children with TB in the city of Banjarbaru. This research is in line with Asfiradyati's research (2016) there is no relationship between the physical environment factors of the house which include natural lighting (p-value 0.102), house walls (p value 0.137), ventilation area (p value 0.805), and house floor (p value 0.700) with the incidence of pulmonary TB in infants/children¹².

Conclusion

1. There is no significant relationship between Home Environmental Health on the incidence of pulmonary TB in children in Banjarbaru City (p-value= 0.883)
2. There was no significant relationship between houses to improve the health status of children with TB in Banjarbaru (p-value = 0.419)

Ethical Clearance: this study approved and received ethical clearance from the Committee of Public Health Research Ethics of Medical Faculty, Lambung Mangkurat University, Indonesia. In this study we followed the guidelines from the Committee of Public Health Committee of Public Health Research Ethics of Medical Faculty, Lambung Mangkurat University, Indonesia for etchical clearance and informed consent. The informed consent included the

Source Funding: This study done by self funding from the authors.

Conflict of Interest: The authors declare that they have no conflict interest.

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