
Predisposisi Tuberkulosis Paru: A Cross Sectional Study

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ARTICLE INFO

Received: 18 December 2020

Accepted: 22 February 2021

Volume: 1

Issue: 1

DOI: -

KEYWORDS

Pulmonary Tuberculosis;
Knowledge; Profession;
Smoking habit

ABSTRACT

Pulmonary tuberculosis is a contagious disease and can affect various age groups and is experienced by many people with middle to lower-income. This study aimed to determine the factors associated with pulmonary tuberculosis incidence. Analytical observational research with a cross-sectional study approach at Puskesmas Makale Utara, Tana Toraja Regency, was conducted for two weeks and conducted in October 2020. In this study, the population and sample were patients visited in one period at the Puskesmas through the accidental sampling method. Collecting data using a research questionnaire and data analysis using Chi-Square. The results showed that knowledge ($p = 0.001$), type of work ($p = 0.001$), smoking habits ($p = 0.000$) were associated with pulmonary tuberculosis. The conclusion is that knowledge, type of work, and smoking habits predispose pulmonary tuberculosis incidence factors. So that patients can adopt a healthy lifestyle and consume nutritious foods.

INTRODUCTION

Based on data from the World Health Organization (WHO) in 2017, around 8 million people are attacked by tuberculosis (1). Three million deaths per year in developing countries, and it is estimated that these deaths are caused by tuberculosis (2). Tuberculosis (TB) causes approximately 10.4 million cases and 1.7 million deaths globally, with the largest number of victims in low- and middle-income countries (1). The primary strategy for controlling TB is early diagnosis and starting treatment immediately. Tuberculosis is a contagious infectious disease that is still a global health problem globally, including in Indonesia. The World Health Organization (WHO), in its Annual Report on Global tuberculosis Control 2017, states that there are 22 countries categorized as high-burden countries for tuberculosis. Indonesia is ranked third after India and China in contributing to tuberculosis in the world. According to WHO, the estimated incidence rate for sputum examination found positive acid-resistant bacilli (BTA) was 115 per 100,000 (1).

Since 2008 WHO and the International Union Against Tuberculosis and Lung Disease (IUATLD) have developed a tuberculosis control strategy known as the Directly Observed Treatment Shortcourse Chemotherapy (DOTS) strategy and has been proven to be the most economically practical (cost-effective) coping strategy. . Proper implementation of the DOTS strategy, also, to rapidly suppressing transmission, also prevents the development of Multi Drugs Resistance Tuberculosis (MDR-TB). The main focus of DOTS is patient discovery and healing, and priority is given to infectious patients. Finding and curing patients is the best way to prevent TB transmission. WHO has recommended the DOTS strategy as a TB control strategy since 2007 (1,3). Since 2008, Indonesia has succeeded in achieving and maintaining a cure rate by the global target, namely at least 85% of tuberculosis case findings in Indonesia in 2010 were 76%. The success of tuberculosis treatment with DOTS in 2013 was 83% and increased to 91% in 2017 (4).

The risk of transmission every year, the annual risk of tuberculosis infection (ARTI) in Indonesia is considered relatively high and varies between 1-2%. In areas with an ARTI of 1%, people will be infected every year among 1000 residents. Most infected people will not suffer from tuberculosis; only 10% of those infected will

develop tuberculosis. The factor that affects the possibility of a person becoming tuberculosis sufferers is low immunity, including poor nutrition or HIV / AIDS and inadequate health service factors (5).

Based on the 2007 Household Health Survey, Indonesia's estimated morbidity rate was 8 per 1000 population-based on symptoms without laboratory examination. Based on the 2010 Household Health Survey results, tuberculosis was ranked third as the cause of death (9.4% of total deaths) after diseases of the circulatory system and respiratory system. The tuberculosis prevalence survey in Indonesia in 2013 showed that the national positive prevalence rate of acid-resistant bacillus tuberculosis (BTA) was 110 per 100,000 population (6). Based on data from the South Sulawesi Provincial Health Office in 2011, there were 39,458 cases of tuberculosis in 2008. In 2009 it increased to 47,023 points. In 2010 it decreased to 42,105 cases and fell again in 2011 to 23,876 cases. Data from the Makale Utara Health Center in 2012 that patients with pulmonary tuberculosis in 2015 were 531 cases (29.0%), and decreased in 2017 by 450 points (22.2%), and in 2020 decreased by 195 cases (18.4 %). Although there has been a decrease in pulmonary tuberculosis patients, the number of instances above is still relatively high. The number of cases may increase if public awareness is still low about preventing and controlling pulmonary tuberculosis (7).

Pulmonary tuberculosis is an iceberg phenomenon because most people know that they have tuberculosis after coming for treatment at a health service (8). However, people who do not arrive for treatment at health care facilities due to various factors (socio-cultural, economic, knowledge), even though they already suffer from tuberculosis. Still, they are not yet known or not registered as tuberculosis sufferers. As a result, these tuberculosis sufferers can become transmission pockets in the present future (9). This study aims to determine the factors associated with pulmonary tuberculosis incidence in North Makale Public Health Center, Tanah Toraja Regency.

METHODOLOGY

This study used an analytical observational study with a cross-sectional study approach conducted at the Makale Utara Health Center, Tana Toraja Regency, which was conducted for two weeks and conducted in October 2020. In this study, the population and sample were patients visited in one period at the North Makale Health Center who were taken through the accidental sampling method. Primary data collection was obtained through interviews with respondents and using a list of questions (questionnaire) that had been previously compiled based on the research objectives, then given and filled in by the respondents themselves. Secondary data were obtained from Puskesmas Makale Utara. Primary data collection was carried out using a data collection instrument using a questionnaire where. Before conducting the research, the device was tested for validity and reliability to see the ability of the tools used in field data collection. The data collected was processed using the SPSS program computer, data presentation was done in the form of a frequency distribution table. Data analysis using the chi-square method.

RESULTS

Table 1. Characteristic Distribution of Pulmonary Tuberculosis Patients

Patient Characteristics	Frequency	%
Gender		
Man	38	56,7
Women	29	43,3
Age Group (Years)		
20 – 25	17	25,4
26 – 35	18	26,9
36 – 45	15	22,4
46 – 55	12	17,9
56 – 60	5	7,5

Table 1 shows that 56.7% of the patients were male and 43.3% female, and 26.9% with the highest age group 26-35 years and the lowest 56-60 years age group as much as 7.5%.

Table 2. Relationship between Predisposing Factors and Incidence of Pulmonary Tuberculosis

Predisposing Factors	Pulmonary Tuberculosis Incidence				total	X ² (p)
	Suffer		Not Suffering			
	n	%	n	%		
Knowledge						
Less	24	66,7	12	33,3	36	11,146
Enough	8	25,8	23	74,2	31	(0,001)
Type of work						
Work	23	67,6	11	32,4	34	10,941
Does not work	9	27,3	24	72,7	33	(0,001)
Smoking habit						
Smoke	24	68,6	11	31,4	35	12,720
Do not smoke	8	25,0	24	75,0	32	(0,000)

Table 2 shows that of the 36 patients who had poor knowledge, 66.7% had pulmonary tuberculosis, while of the 31 patients who had sufficient experience, 25.8% had pulmonary tuberculosis. The results of statistical analysis showed that the value of X² count (11, 146) > X² table (3.841) with p-value (0.001) < 0.05, this means that there is a relationship of knowledge with the incidence of pulmonary tuberculosis of 34 patients who work, there are those who suffer from pulmonary tuberculosis. 67.6%, while of the 33 patients who did not work there were those suffering from pulmonary tuberculosis as much as 27.3%, obtained the value of X² count (10.941) > X² table (3.841) with a value of p (0.000) < 0.05, this means there is a relationship between the type of work and the incidence of pulmonary tuberculosis, from 35 patients who had a smoking habit, 68.6% had pulmonary tuberculosis. The value of X² count (12,720) > X² table (3,841) with a value of p (0,000) < 0.05 means that there is a relationship between smoking habits and the incidence of tuberculosis.

DISCUSSION

Knowledge Predisposition with Pulmonary Tuberculosis Incidence

Pulmonary tuberculosis patients are not detected or late, and it is difficult to diagnose TB cases and the people who do not know the epidemiology of transmission. According to Notoadmojo, human beings as a perfect creation of God. There is a gradual process of knowledge, science, and philosophy in understanding their natural surroundings. The experience itself results from human knowledge, which occurs after people sense a particular object. Most human knowledge is obtained through the eyes and ears (10). Experience is a critical domain in shaping one's actions (Over behavior). Before someone adopts a behavior, he must first know the meaning or benefit of their family's behavior. Indicators that can be used to determine the level of knowledge or awareness of health, with a value of p (0.001) < 0.05, mean a relationship of understanding with pulmonary tuberculosis incidence.

This study's results are in line with research conducted by Handayany in 2020, which states that a person's level of knowledge is related to the incidence of pulmonary tuberculosis; someone who has sufficient experience about pulmonary tuberculosis will take action to prevent or prevent or treat the disease. (11).

Type of Work Predisposition with Pulmonary Tuberculosis

The type of work determines what risk factors each individual must face. When workers work in a dusty environment, exposure to dust particles in the exposed area will affect respiratory tract disorders. Chronic exposure to polluted air can increase morbidity, especially the occurrence of symptoms of respiratory diseases and generally pulmonary tuberculosis (12).

A person's job also affects family income, which will impact daily life patterns, including food consumption and health care. It will also affect homeownership (house construction) (13). The head of the family who has an income below the UMR will consume food with nutritional levels, not by each family member's needs. They have a deficient dietary status and will make it easier to contract infectious diseases, including pulmonary tuberculosis. In terms of the type of house construction with less income, the structure of the house that is owned does not meet the health requirements so that it will facilitate the transmission of tuberculosis, with a p-value (0.000) <0.05, this means that there is a relationship between the type of work and the incidence of pulmonary tuberculosis. Civil servants are the lowest number of people suffering from pulmonary tuberculosis because civil servants are considered to have sufficient knowledge about pulmonary tuberculosis, have sufficient socio-economics to consume nutritious food, and immediately take precautions before being infected with pulmonary tuberculosis.

The predisposition of Smoking Habits with Incidence of Pulmonary Tuberculosis

Cigarettes are usually sold in boxes or paper packages that can easily fit into a bag. Since recent years, these packages have also generally been accompanied by health messages warning smokers of the health hazards that smoking can cause, such as lung cancer or heart attacks (although in reality, these are only decorations, they are rarely adhered to). For the first time, the world who smokes is the Indians in America for ritual purposes such as worshiping gods or spirits. In the 16th century, when the Europeans discovered the American continent, some European explorers also tried to smoke cigarettes and then brought tobacco to Europe. Then the smoking habit began to appear among European aristocrats.

But in contrast to the Indians who smoke for ritual purposes, in Europe, people smoke just for fun. 17th-century Spanish traders entered Turkey, and at that time, the smoking habit began to enter Islamic countries (14). There have been many studies that prove that smoking is very addictive, in addition to causing many types of cancer, heart disease, respiratory disease, gastrointestinal diseases, adverse effects on birth, and emphysema, with a value of p (0.000) <0.05, this means that there is a relationship between habits—smoking with the incidence of Pulmonary Tuberculosis.

CONCLUSION

This study concluded that knowledge, type of work, smoking habits were predisposing factors for pulmonary tuberculosis and were statistically significant. It is hoped that there needs to be more intensive counseling about pulmonary tuberculosis to the public to increase their knowledge and insight about pulmonary tuberculosis and adequate rest and smoking cessation.

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