

## Conference Paper

# Descriptive Study of Certainty Level Towards Risk of Tuberculosis Disease in Productive Ages

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**Abstract**

Tuberculosis (TB) is caused by mycobacterium tuberculosis which can attack the organs of the body and is still a public health problem in the world despite many countries' have effort to control the disease. 75% of pulmonary TB sufferers are found at the most economically productive age (15-49) years. The Objective to determine the level of certainty level in the risk of TB at productive age. The methods using a descriptive using cross sectional design. Conducted in June 2019, with research subject include of 133 respondents in the area of Pagarsih Public Health Center in Bandung City. The results showed the productive age affected by TB reached (96%) 128. At the age level showed that the most people affected by TB were at the age of 26 - 35 years (42%) as many as 56 people. In gender it mostly 53% female type. Characteristics of education are greater in high school education with a number (48%) 64 people. In greater occupations, such in unemployed/housewives the result showed (60%) or 80 people. Productive age should be concerned specifically because it is very susceptible to TB.

**Keywords:** Certainty level, Tuberculosis, Productive Age.

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## 1. Introduction

Tuberculosis (TB) is a major health problem in the world. This disease is caused by the bacterium mycobacterium tuberculosis which can attack the organs of the body especially the lungs and until now TB is still a public health problem in the world although efforts have been expected in many countries since 1995 [1].

TB cases in Indonesia have never declined, there are still many cases that are unreached and detected and have been treated but not yet reported. Head of the Health Research and Development Agency, based on the Global Burden of Disease study, tuberculosis is the second leading cause of death in the world. TB rates in Indonesia are based microscopically at 759 per 100,000 population for the age of 15

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years and over with the number of men higher than women, and the number in urban areas is higher than in rural areas [2].

Prevention of TB transmission according to Crofton, et. Al (2007) is by closing the mouth when coughing or sneezing using a tissue then wrapped in a plastic bag and burned or used handkerchief that is washed every day, so that the sputum sprinkles will not spread. Other prevention is by treating, treating and completing treatment effectively to break the chain of transmission from sufferers to other people in their environment. Good home ventilation can also reduce the risk of transmission because it can reduce the amount of spark, and direct sunlight can help kill germs [3].

The efforts undertaken by the Indonesian government include empowering all sectors achieved by making TB prevention and control a national development priority. The government is accelerating the preparation of diagnostic and treatment facilities to improve access and quality that is far better. The use of molecular rapid tests (TCM) is strived to be available in every district, referral hospital, laboratory center and priority health center. The importance of certainty can be applied to build a system that can diagnose a disease based on the general symptoms it causes. Problems related to the uncertainty aspect of user answers that can have an impact on the diagnosis results can be overcome by applying the certainty factor (CF) method. Previous research explains that certainty can help the community and doctors in diagnosing TB and DHF so that it can be addressed earlier [4].

Productive age with range of 15-49 years old is the age at where human are physically and biologically mature. Productive age is the age where a person is at a stage to work / produce something both for him or others. 75% of people with pulmonary TB are found at the most economically productive age (15-49 years). At this age if a person suffers from pulmonary TB, then it can lead to an individual being no longer productive even a burden to his family [3].

## 2. Methods

### 2.1. Type of Research

Type of research that will be using in this research is descriptive method with cross sectional approach.

TABLE 1: Respondent Characteristics  
**Respondent Characteristics in Pagarsih Public Health Center (n= 133)**

Categories	Total	Percentage
<b>Age</b>		
18 – 25	55	41%
26 -35	56	42%
36 – 45	22	16%
<b>Sex</b>		
Female	71	53%
Male	62	46%
<b>Education</b>		
Elementary School	21	15%
Junior High School	30	22 %
Senior High School	64	48%
College Student	18	13%
Total	133	
<b>Occupation</b>		
Unemployed/Housewives	80	60%
Private Employee/ entrepreneur	50	37%
Civil Servant	3	23%
Total	133	

TABLE 2: The results of certainty level categories at the Pagarsih Health Center(n= 133)

Categories	Frequency	Percentage
Not Infected TB	1	0,7 %
Possible Infected TB	4	3 %
Infected TB	128	96%
Total	133	

## 2.2. Population

The population in this study is the community in the area of the Pagarsih Health Center in Bandung. The sampling technique used by researchers is convenience sampling. The inclusion criteria used in this study were people with productive age 15-45 years, people who were in the area of Pagarsih Health Center, people who had not been diagnosed with TB. The exclusion criteria in this study are people with psychological disorders. The sample size is calculated using G-Power version 3.1.9.2. using the Exact and statistical tests namely proportion: Difference from constant (binomial test, one sample case) with assumptions = 0.5, effect size = 0.1, power level = 0.95 constant proportion = 0.5 Total sample size is 133.

TABLE 3: The result of P-Value demography in Pagarsih Health Center (n= 133)

Demography		Certainty level				P-Value
		Possible Infected TB	Infected TB	Not Infected TB	Total	
<b>Age</b>	18-25	3	51	1	55	<b>3,568</b>
	26-35	1	56	0	57	
	36-45	0	21	0	21	
Total		<b>4</b>	<b>128</b>	<b>1</b>	<b>133</b>	
<b>Sex</b>	Male	3	58	1	62	<b>2,528</b>
	Female	1	70	0	71	
Total		<b>4</b>	<b>128</b>	<b>1</b>	<b>133</b>	
<b>Education</b>	Elementary	1	20	0	21	<b>3,343</b>
	Junior High	0	29	0	29	
	Senior High	3	61	1	65	
	College Student	0	18	0	18	
Total		<b>4</b>	<b>128</b>	<b>1</b>	<b>133</b>	
<b>Occupation</b>	Unemployed/ Housewives	4	74	1	79	<b>3,551</b>
	Private Employee/ entrepreneur Civil Servant	0	51	0	51	
Total		<b>0</b>	<b>3</b>	<b>0</b>	<b>3</b>	
		<b>4</b>	<b>128</b>	<b>1</b>	<b>133</b>	

### 2.3. Instrument

Research instrument using a research instrument in the form of a questionnaire that was created by prof. Dr. Herdiman T.PDTM & H. Sp PD-KPTI as experts in the field of internal medicine, was made in 2018. The instrument here uses 16 questions about the signs and symptoms of Tuberculosis with the categories No, Don't Know, Maybe, A Little Sure, Almost Sure, Very Sure. How to score it Not affected by TB = 0 - 50, Possibility of contracting TB = 50 - 70, affected by TB > 70.

### 2.4. Data Collection Procedure

Permission to carry out research obtained from STIKep PPNI West Java, and has obtained permission from the health center concerned. Researchers took samples at productive age by chance at the Puskesmas. Furthermore, the researcher gave an explanation of the research conducted including an explanation of the respondent's right to refuse, then respondents who had agreed to participate in the study would be

asked to sign an informed consent sheet without coercion. Researchers then began to conduct research using a questionnaire.

## 2.5. Data Analysis

The analysis in this study is univariate analysis to find out Descriptive analysis of frequency, range with variables about certainty level.

## 3. Discussion

One of the factors causes tuberculosis in Indonesia is that there are still many people who do not have occupancy that meets health standards, where people live in a densely populated neighborhood. Another factor causes various types of bacteria to appear so that it can attack the surrounding community. Other factors are also, still lacking knowledge about the protection of healthy living. There is also no guidance for tuberculosis itself, lack of adequate facilities and limited expert doctors' knowledge of tuberculosis can make tuberculosis diagnoses better used for public health [5].

The main causes of the increase in TB problems include poverty in various community groups, lack of access to the community case finding/diagnosis that is not standard, the supply of drugs is not guaranteed, no monitoring, recording and reporting are standard and so forth. An increase in TB cases is influenced by endurance, nutritional status and personal hygiene and the density of residential neighborhoods [6].

Public health is influenced by several factors such as the environment, behavior, health services and heredity. Houses with unhealthy conditions or do not meet health requirements can be a medium for respiratory disease transmission, one of which is tuberculosis. Tuberculosis is exacerbated by poor housing sanitation conditions, especially in dense settlements and poor populations [7]. Based on the discussion above it can be concluded that the risk factors for tuberculosis are still many people who do not meet health standards and then a densely populated environment. Other factors are also the lack of knowledge about healthy living behaviors and the absence of guidance for tuberculosis. The main cause of the increase in TB problems is poverty and then public health can be influenced by several factors such as the environment, behavior, health services and heredity and Houses with unhealthy conditions or not meeting health requirements.

## 4. Conclusion and Suggestion

The risk of TB shows that there is a greater risk of contracting TB than the possibility of TB and not being exposed to TB. Age characteristics show that the highest risk of TB is at the age of 26 - 35 years so it affects the risk of contracting TB. The characteristics of the sexes are dominant in the female sex. On the characteristics of greater education in high school education so that low education can affect the risk of TB. Based on the characteristics of work is greater in the work of housewives / not working so daily factors influence the risk of TB. For suggestion, the Public Health Center need to increase the program related to the risk of Tuberculosis.

## Conflict of Interest

The authors report no real or perceived vested interests that relate to this article that could be construed as a conflict of interest

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