



## Identification of Risk Factors and Symptoms Pulmonary Tuberculosis of Community Health Work in Gunung Sari Area West Lombok District in 2016



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### Abstract

Background: Tuberculosis is an infectious disease caused by bacteria *Mycobacterium tuberculosis*. This bacterium is a bacterium bacillus very strong so takes a long time to treat. As a chronic disease, pulmonary tuberculosis has several risk factors of symptom Tuberculosis factor. Objective: The objective of this study is to identify risk factors and symptoms of pulmonary Tuberculosis. Methods: The design used in this study is a cross-sectional descriptive study, with a non-random sampling method, is purposive judgmental (samples consideration) with the qualitative data. The research conducted by distributing questionnaires to the respondents after informed consent. Result: the risk factors that affect the incidence of Tuberculosis is high, can be seen from public education is low, the number of society who do not have jobs, people's incomes far below the standard wage area, many people who have children under five and there are still many who do not give BCG immunization, the number of people who are elderly, and home community is still high that smoke, the houses are solid, some people with Tuberculosis in the process of healing their patients with positive Tuberculosis who do not seek treatment, their pain smear + who interrupt their treatment, many people who have a family history of previously positive Tuberculosis, when it concluded that the people on the ground in public health Gunung Sari at high risk of Tuberculosis. Conclusion: In terms of risk factors for pulmonary Tuberculosis include age, education, occupation, income, have a toddler who has not been given the BCG vaccine and toddlers below the red line, have a family of the elderly, the respondent family who smoke, the home environment, lighting and air circulation in the house, and the presence of Tuberculos patients around the residence.

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**1. Introduction**

Tuberculosis is one of the diseases found in the community throughout the world. It is estimated that the death rate from tuberculosis was 8000 every day and 2-3 million each year. WHO Report on the Global 2010, Indonesia tuberculosis of data obtained in 2009 were 294,731 cases, of which 169,213 are new smear-positive tuberculosis cases, 108,616 are smear negative tuberculosis cases, 11 215 Extra pulmonary tuberculosis cases, 3,709 tuberculosis cases relapse, and 1978 is a re-treatment case than for cases of relapse (retreatment, excl relapse).

Tuberculosis is an infectious disease caused by bacteria mycobacterium tuberculosis. This bacterium is a bacterium bacillus that is so strong that it takes a long time to heal. The source of transmission of tuberculosis is smear positive tuberculosis patients. Once a cough can produce about 3,000 droplets. The power transmission of a patient is determined by a number of germs were removed from the lung.

As a chronic disease, which requires regular treatment for six months makes people become bored so that the resulting non-compliance in the treatment process. The main reason is the treatment failure patients did not take his medication regularly in the time required. Internal factors such as educational background, knowledge, jobs and income for people of productive age and work. The external factors include health care, and transportation distances to reach health services, polyclinic, medical expenses.

The main symptom of pulmonary tuberculosis patients is a productive cough for 2-3 weeks or more. A cough may be followed by additional symptoms that sputum mixed with blood, coughing up blood, shortness of breath, weakness, loss of appetite, weight loss, lazy, sweaty night without physical activity, fever, chills more than one month. If there are symptoms that have been mentioned, it is necessary to be done by microscopic examination of sputum (MOH, 2001).

In 2012 the number of pulmonary tuberculosis in West Nusa Tenggara disease reached 7,025 people consisting of 2,511 old cases and 4,339 new cases. The incidence of pulmonary tuberculosis high of 93.6 per 100,000 population and prevalence pulmonary tuberculosis at 152 per 100,000 population. The death rate caused by pulmonary tuberculosis were high at 3.32 per 100,000 population. West Lombok District ranks third highest number of pulmonary tuberculosis patients in West Nusa Tenggara number of 1,057 cases with the prevalence 341 per 100,000 population (West Nusa Tenggara Health Office, 2012). Based on the description of background, the purpose of this study is to identify risk factors and symptoms of pulmonary tuberculosis of the community in Public Health Gunung Sari.

**2. Materials and Methods**

The design used in this research is descriptive research with cross sectional approach. The population used in the study was 48 in health public Gunung Sari. Non-random sampling method is purposive judgmental (samples consideration): with qualitative research. Inclusion criteria for this study:

- a) People living in the village at high risk of Tuberculosis.
- b) Cooperative society.

This study will be conducted in February 2016 in 48 villages on public health Gunung Sari subdistrict of Gunung Sari, West Lombok in The year 2016. The collecting the data is done by distributing questionnaires to the respondents after informed consent. Respondents explained about the research objectives and benefits of research. After respondents were interviewed, performed data analysis using univariate analysis used is to calculate the proportion of the incidence of pulmonary tuberculosis.

### 3. Results and Discussions

#### 3.1 The risk factors of pulmonary tuberculosis

Based on Table 1, when viewed from a risk factor for pulmonary tuberculosis include age, education, occupation, income, have a toddler who has not been given the BCG vaccine and toddlers below the red line, have a family of the elderly, the respondent family who smoke, the home environment, lighting and air circulation inside the house, and the presence of tuberculosis patients around the residence.

Table 1  
Univariate Statistical Test Analysis of Risk Factors of Tuberculosis

No	Variables	Category	N = 491	Percentage (%)
1	Age	Productive	483	98,4
		Not productive	4	0,8
2	Education	Low	283	57,6
		High	205	41,8
3	Work	Does not work	382	77,8
		Work	105	21,4
4	Income	Low	467	95,1
		High	24	4,9
5	Having a toddler	Yes	131	26,7
		Yes	349	71,1
6	Toddlers given BCG	Not	141	28,7
		Yes	339	69,0
7	Toddler BGM	Not	436	88,8
		Yes	43	8,8
8	Families elderly	Not	235	47,9
		Yes	246	50,1
9	Respondents Smokers	Never	433	88,2
		Sometimes	5	1,0
		Yes	51	10,4
10	Respondents Smokers	Never	107	21,8
		Sometimes	21	4,3
		Yes	356	72,5
11	Densely populated neighborhood	Not	194	39,5
		Yes	288	58,7
12	Dirty home environment	Not	346	70,5
		Yes	138	28,1
13	Dirty home environment	Never	55	11,2
		Sometimes	118	24,0
		Yes	313	63,7
14	Air circulation smoothly	Never	45	9,2
		Sometimes	147	29,9
		Yes	298	60,7
15	TB in the healing process	Not	425	86,6
		Yes	61	12,4
16	TB is not treated	Not	459	93,5
		Yes	27	5,5
17	TB drop out	Not	472	96,1
		Yes	15	3,1
18	There is a family of TB +	Not	421	85,7
		Yes	65	13,2

Source: Primary Data

The age can be seen that the majority of respondents are in the productive age as many as 483 people (98.4%), while respondents who are at the age older as 4 (0.8%). Judging from the education factor, as many as 283 people (57.6%) with low education while higher education as many as 205 people (41.8%). Most respondent education is completed senior high school as big as 46%. However, this research results indicate that the higher education of the individual has more awareness of the disease than those who have low education. This is in contrast with the results case study pulmonary tuberculosis Treatment Outcomes in 10 health centers in DKI Jakarta 1996-1999 which state that the low level of education will lead to low education in terms of hygiene and environmental health as reflected in the behavior of some victim still throw phlegm and spit place.

From Table 1 the respondents who do not work as many as 382 people (77.8%) and work as many as 105 people (21.4%). It can be concluded that people in Gunung Sari result. So, largely devoid of factor income, a total of 467 respondents (95.1%) high-income low demand and many as 24 people (4.9%). It can be concluded that the respondents in the mount extract most of the low income that is most likely exposed to tuberculosis. Judging from the risk factors the respondents who have children in mind that most respondents have an infant as 349 people (71.1%) and who do not have as many as 131 infants (26.7%). And from these data the respondents who have children who have been given the vaccine BCG as 339 (69.0%) and respondents who have children who have not been given the BCG vaccine as many as 141 (28.7%). While the respondents who have children with weight below the red line as 43 people (8.8%) and respondents who have children whose normal weight was 436 (88.8%). It can be concluded that the majority of respondents in Gunung Sari who have children has been given the BCG vaccine and of normal weight so that a small risk of contracting tuberculosis. This is according to research conducted in 2007 Simbolon about the risk factors of pulmonary tuberculosis in Rejang Legong that the risk of people who do not receive BCG for tuberculosis occurs at 2,855 times greater than those who received BCG immunization.

Based on the risk factors of respondents who have elderly family members as many as 235 people (47.9%) do not have elderly relatives and 246 (50.1%) of respondents who have elderly family members. It can be concluded that the majority of respondents in Gunung Sari have elderly family members, so it has a great risk of contracting tuberculosis. From the results obtained can be analyzed that the incidence of pulmonary tuberculosis disease more common in the age range of 26-55 years, it is because the pattern of life at that age is not good, causing a decrease in the body's defense (Crofton and Horne, 2002).

Risk factors respondents viewed from the habit of self and family who smoke. Based on Table 1 it can be seen respondents who had never smoked as many as 433 people (88.2%). While the respondents occasionally smoke as many as five people (1.0%) and 51 people (10.4%) of respondents who smoke. So, respondents who have never had a family member who smoked as many as 107 people (21.8%), while respondents who sometimes have family members who smoke as many as 21 people (4.3%) and 356 people (72.5%) of respondents who have family members who smoke. It can be concluded that the majority of respondents in Gunung Sari have family members who smoke, so it has a great risk of contracting tuberculosis.

Based on Table 1 it can be seen that the home environment of respondents do not densely populate as many as 194 people (39.5%) and respondents who her neighborhood heavily populated is 288 people (58.7%). It can be concluded that the majority of respondents in Gunung Sari has a home environment densely populated, so it has a great risk of contracting tuberculosis. The negative effect of people on physical health, mental and social. House or a room that is too lot people will lack the O<sub>2</sub> so the effect of down durability and ease the effect of the disease. House or a room that is a too lot of people will lack the O<sub>2</sub> so effected of durability and ease of victim disease. Table 1 can be determined based on respondents who clean their home environment as much as 346 people (70.5%) and respondents who soiled their home environment as 138 people (28.1%). Based on Table 1 it can be seen respondents who have never opened a window so that the lighting in the house is better than people is not open the window as many as 55 people (11.2%). The respondent which sometimes open the window so that the lighting in the house pretty much as 118 people (24.0%) and as many as 313 people (63.7%) of respondents who opened the window so that the lighting in the house enough. It can be concluded that the majority of respondents in Gunung Sari open the window so that the lighting in the house enough, so it has less risk of contracting tuberculosis. This is consistent with the results in 2007 Simbolon research on risk factors for pulmonary tuberculosis in Rejang Legong show that people who have a house with no sunlight into the house at risk 5,008 times greater than those who live in homes that incoming sunlight. To obtain sufficient light during the day, required extensive glass windows a drink of 12% of the floor area. Based on Table 1 it can be seen respondents who have never opened a window so that the air circulation inside the house smoothly as many as 45 people (9.2%). Meanwhile, the respondents were sometimes open the window a total of 147 people (29.9%) and as many as 298 people (60, 7%) of respondents who opened the window

so that the air circulation inside the house smoothly. It can be concluded that the majority of respondents in Gunung Sari open the window so that the air circulation inside the house smoothly have a small risk of contracting tuberculosis.

Based on respondents Table 1 it can be seen around the house no patients were exposed to tuberculosis in the healing process as many as 425 people (86.6%) and as much as 61 people (12.4%) of respondents around the house there are patients who are exposed to tuberculosis in the healing process. Based on Table 1 it can be seen around the house no patients who are exposed to tuberculosis but not treated as much as 459 people (93, 5%) and as much as 27 people (5.5%) of respondents around the house there are patients who are exposed to tuberculosis but do not seek treatment. Based on Table 1 it can be seen around the house no tuberculosis patients who dropped out as many as 472 people (96.1%) and as many as 15 people (3.1%) of respondents around the house there are tuberculosis patients who drop out. Based on Table 1 it can be seen respondents who have family who is not exposed to tuberculosis positive in 421 (85.7%) and as many as 65 people (13.2%) of respondents who have no positive tuberculosis-affected families.

### 3.2 Factors Symptoms of Pulmonary Tuberculosis

Based of knowable in Table 2 respondents who never had a persistent cough and phlegm as many as 411 people (83.7%). Meanwhile, the respondents were sometimes subjected to a continuous cough and phlegm as many as 38 people (7.7%) and a total of 41 people (8.4%) of the respondents who experienced a persistent cough and phlegm. It can be concluded that the majority of respondents in Gunung Sari never experienced a persistent cough and phlegm, so it has less risk of contracting tuberculosis.

Based of knowable in Table 2 respondents who have never experienced a productive cough blood mixed 468 people (95.3%), while respondents who sometimes have a productive cough as much blood mixed 3 (0.6%) and as many as 16 people (3, 3%) of respondents who experienced coughing up phlegm mixed with blood. It can be concluded that the majority of respondents in Gunung Sari never experienced coughing up phlegm mixed blood, so it has less risk of contracting tuberculosis.

#### Top of Form

Based on Table 2 knowable respondents who have never experienced shortness of breath and pain in the chest about 417 people (84.9%). While the respondents occasionally experiencing shortness of breath and pain in the chest about 37 people (7.5%) and 16 persons (6.7%) of the respondents who experienced shortness of breath and pain in the chest.

Based knowable Table 2 respondents who have never experienced a fever of more than a month as many as 372 people (75.8%), while respondents who sometimes have a fever more than a month as many as 65 people (13.2%) and 51 people (10, 4%) of respondents who have a fever more than a month. Based knowable Table 2 respondents who have never experienced body aches and chills during the night as many as 268 people (54.6%), while respondents who sometimes have body aches and chills during the night as many as 139 (28, 3%) and as many as 78 people (15.9%) of respondents who experience body aches and chills at night. It can be concluded that the majority of respondents in Gunung Sari never experienced body aches and chills at night, so it has less risk of contracting tuberculosis.

Table 2  
Univariate Statistical Test Analysis Symptoms of Tuberculosis

No	Variables	Category	N = 491	Percentage (%)
1	A cough with phlegm	Never	411	83,7
		sometimes	38	7,7
		Yes	41	8,4
2	Coughing up blood	Never	468	95,3
		sometimes	3	0,6
		Yes	16	3,3
3	Shortness of breath/chest pain	never	417	84,9
		Sometimes	37	7,5

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4	Fever > 1 month	Yes	33	6,7
		Never	372	75,8
		Sometimes	65	13,2
5	Body aches	Yes	51	10,4
		Never	268	54,6
		sometimes	139	28,3
6	Night sweats	Yes	78	15,9
		never	339	69,0
		sometimes	104	21,2
7	Agency limp	Yes	45	9,2
		never	255	51,9
		sometimes	144	29,3
8	Decreased appetite and weight loss	Yes	88	17,9
		Never	339	69,0
		never	81	16,5
		Yes	65	13,2

Source: Primary Data

Based on the table above can be seen 33 based on respondents who have never experienced night sweats weight as much as 339 people (69.0%). Meanwhile, the respondents were sometimes subjected to body sweating at night as many as 104 people (21.2%) and as many as 45 people (9.2%) of respondents who experience night sweats body. It can be concluded that the majority of respondents in Gunung Sari never experienced body sweats at night, so it has less risk of contracting tuberculosis.

Based on the above table it can be seen respondents who have never experienced weakness and lethargy as many as 255 people (51.9%). Meanwhile, the respondents were sometimes subjected to body weakness and lethargy as many as 144 people (29.3%) and as many as 88 people (17,9%) of the respondents who experienced body weakness and lethargy. Based on the above table it can be seen respondents who have never experienced a decreased appetite and a decrease in hemoglobin levels as much as 339 people (69.0%), while respondents who occasionally experience diminished appetite and a decrease in hemoglobin concentration were 81 people (16.5%) and as many as 65 people (13.2%) of respondents who experience reduced appetite and decreased levels of BB. It can be concluded that the majority of respondents in Gunung Sari never experienced a decreased appetite and decreased levels of B, so it has less risk of contracting tuberculosis.

#### 4. Conclusion

In public health Gunung Sari risk factors that affect the incidence of tuberculosis is high, can be seen from public education is low, the number of society who do not have jobs, people's incomes far below the minimum wage area, many people who have children under five and there are still many who do not give BCG immunization, the number of people who are elderly, and home community is still high that smoke, the houses are solid, some people with tuberculosis in the process of healing their patients with positive tuberculosis who do not seek treatment, their pain smear + who interrupt their treatment, many people who have a family history once positive tuberculosis, when it concluded that the people on the ground in mountain public health Gunung Sari at high risk of tuberculosis.

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#### *Statement of authorship*

The author(s) have a responsibility for the conception and design of the study. The author(s) have approved the final article.

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