ATLANTIS PRESS
Advances in Health Sciences Research, volume 39
Proceedings of the 2nd Syedza Saintika International Conference on Nursing, Midwifery, Medical Laboratory Technology, Public Health, and Health Information Management (SeSICNiMPH 2021)

Characteristics of Age and Gender to the Incidence of Pulmonary Tuberculosis

Harinal Resta[1,*], Rhona Sandra[2], Veolina Irman[3]

[1,2,3]*Stikes Syedza Saintika*
[*]*Corresponding author Email : harinal1990@gmail.com*

ABSTRACT
Pulmonary tuberculosis (TB) is an infectious disease caused by Mycobacterium tuberculosa. Pulmonary TB is still an infectious disease with a high mortality rate. Various treatment strategies that have been done to break the chain of transmission of pulmonary TB. According to the Indonesian Health Profile report TB disease still has not shown significant progress. Purpose of Research: To provide an overview of the characteristics of people with pulmonary tuberculosis. Method: This research is included in descriptive research with cross sectional methods. The population of this study is all respondents recorded in the book of pulmonary tuberculosis program at Puskesmas Andalas Padang as many as 46 respondents. Sampling in this study is total sampling. This study used secondary data obtained from the Medical Record of Andalas Padang Health Center. Results showed from 46 patients as many as 65.2 or 30 patients aged 14-45 years and from 46 patients as many as 58.7% or 27 patients were respondents with male gender. Conclusion: The incidence of pulmonary tuberculosis occurs a lot at the age of 14-45 years which is a productive age with a higher level of mobility and the risk of inhaling droplets is also high. The incidence of pulmonary TB is dominated by men rather than women.

Keywords: *Pulmonary Tuberculosis, Characteristics, Age, Gender*

1. INTRODUCTION

Tuberculosis (TB) is an infectious disease caused by bacteria (Mycobacterium tuberculosis) that attack essential organs such as the lungs. Air is a mediation of the spread of TB transmission through droplets of lung TB sufferers. It generally occurs when people with TB cough, sneeze or spit, which makes germs spread into the air. Although tb can be cured and prevented by breaking the chain of TB transmission [1]. Pulmonary TB is still a priority concern of the world's most important public health issues. In 1993 the World Health Organization (WHO) declared pulmonary TB a Global Emergency, as the disease causes an average of 10 million people each year and is the cause of the high mortality rate of ten disease causes of death worldwide. Until now from 216 countries in the world there are 30 countries categorized as High Burden Countries against pulmonary TB disease, one of which is Indonesia which is ranked second in the world after India [2].

Indonesia already has a program to combat pulmonary TB disease including screening patients suspected of pulmonary TB in potential areas of lung TB (densely populated), comprehensive diagnosis examination, provision of free ANTI TB Drugs (OAT) during the treatment period and moving a cadre of drug swallowing supervisors (PMO). This program is done to break the lung TB chain [1].

Based on data reports and information of The Indonesian Health Profile (2016) obtained data on the incidence of lung TB cases increased with the number of lung TB sufferers as many as 156,723 people. Of the 34 provinces in Indonesia, the highest lung TB rating is in West Java Province with 23,774 lung TB sufferers and the lowest is in North Kalimantan Province with 507 lung TB sufferers. West Sumatra Province is ranked 12th with a total of 3,847 TB sufferers. This condition illustrates that pulmonary TB disease is still a serious problem to overcome [1].

2. MATERIALS AND METHODS

This study is a descriptive study that aims to describe and explain the characteristics of independent variables (age and gender) with dependent variables (TB incidence) using a cross sectional study approach. Researchers conducted for 1 month at Puskesmas Andalas Padang with the help of secondary data that uses medical record data at Puskesmas Andalas.

The patient population of 46 people by sampling total sampling with inclusion criteria: 1) Patients who perform treatment in the working area of Andalas Padang Health Center. 2) Lung TB patients aged 20 years to age 70 years. Exclusion Criteria: 1) Lung TB patients who have complications.

3. RESULT

Table 1. Characteristics of Age

Age	Frequency	Percent	Cumulative Percent
14-45 yeas	30	65.2	65.2
> 46 yeas	16	34.8	100.0
Total	46	100.0	

Of the 46 respondents, it was found that 65.2% or as many as 30 patients who suffered from pulmonary TB aged 14-45 years, while 34.8% or as many as 16 patients suffered from pulmonary TB aged > 46 years in the working area of Andalas Padang Health Center.

Table 2. Gender Characteristic

Gender	Frequency	Percent	Cumulative Percent
Male	27	58.7	58.7
Female	19	41.3	100.0
Total	46	100.0	

Of the 46 respondents, it was found that 58.7% or as many as 27 patients who suffered from pulmonary TB with the male gender, while 41.3% or as many as 19 patients suffered from female pulmonary TB in the work area of Andalas Padang Health Center.

4. DISCUSSION

Based on the results of studies that have been conducted on the distribution of the frequency of respondents in lung TB patients it is known that almost all lung TB patients with 40 respondents (87.0%) experienced suspect pulmonary TB 6 respondents (13.0%) in the Working Area of Puskesmas Andalas Padang.

This study is almost the same as the study conducted by Siregar (2017), on the analysis of factors related to pulmonary TB recurrence (Case Study in BKPM Semarang In 2013) that 50% of 52 respondents suffered from pulmonary TB and another 50% with suspect pulmonary TB. For respondents with suspect pulmonary TB, further and deeper examinations are needed to ensure the absence of lung TB symptoms. [3].

Pulmonary TB disease is very easily transmitted through invasive TB germs into the body when the body experiences a decrease in endurance, transmission of TB germs in general through droplets or air when people with pulmonary TB cough, sneeze or spit. In general, people with pulmonary TB attack the lung organs which are the second most important organ after the heart, which if lung colaps occur that will eventually lead to mortality [4].

According to the assumption of researchers that pulmonary TB disease is a very contagious disease and when there is 1 person with pulmonary TB is living in an environment most likely the spread of pulmonary TB disease will be more likely to increase, this is because it is very easy for lung TB germs to spread from one person with pulmonary TB to another person who comes into contact with lung TB sufferers when the body's immunity decreases. From some common questions that have been done illustrated that people with pulmonary TB have a family with lung TB sufferers as well and there are also people with pulmonary TB have neighbors who experience the same disease. This is reinforced by some data that researchers take from existing records. Of the 46 respondents 60% or as many as 27 respondents are family contact history with TB disease or TB germ exposure environment.

Based on research that has been done about the age and gender characteristics of people with pulmonary TB it is known that more than half (65.2%) or about 30 patients are in the age range of 14-45 years. While the rest (34.8%) or about 16 people are at the age of > 46 years. The condition describes that people with pulmonary TB are dominated by patients aged 14-45 years, in the sense of being at a productive age. The age of 14-45 is an age with high productivity and mobility. This condition is at risk of inhaling droplets of lung TB sufferers that spread in the air.

According to research conducted by Nur'aini (2021) which explains the picture of lung TB sufferers in his research is at the age of 35-54 or at a productive age compared to old age which is generally few who do heavy activity outdoors [5].

The results of this study are the same as research conducted by Alberta (2021) which found the picture of TB sufferers in research conducted a lot of people aged 20-40 as much as 77% compared to tb sufferers in old age [6].

The results of this study are also supported by hasi; Suseno's research (2021) which describes the findings of lung TB incidence was found at a productive age of 15-45 years. According to Suseno, this incident is caused by contracting it while doing productive daily activities outside the home [7].

But different results were found by Savitri (2021) in the findings of the results of a study he

conducted as much as 61.6% of lung TB incidence found in patients with advanced age. According to Savitri, elderly conditions cause aging from all sides including the weakening of the immune system as protection of the body against invasive pathogens from the outside environment. Savitri also mentioned that the transmission of elderly patients is also transmitted by families who are tiggal at home due to close contact with previous sufferers [8].

The characteristics in this study for the gender of about 58.7% or as many as 27 patients who suffered from pulmonary TB with male gender compared to pederita with the female gender were found about 41.3% or as many as 19 patients in the work area of Puskesmas Andalas Padang. This condition explains that male gender sufferers are more susceptible to lung TB. In general, the most physical activities and activities outside the home are men. Coupled with unhealthy habits such as smoking become a factor in the occurrence of pulmonary TB.

According to research conducted by Pongkorung (2020), Suseno (2020), Andayani (2020) and Pangaribuan (2020) from the study that he conducted the picture of lung TB sufferers more occurred in patients with the male gender more than 50% compared to patients with female gender with an incidence of about 46% [9], [7], [10], [11].

The same study results were also obtained by Savitri (2021) and Bakri (2021) about 77% of lung TB incidence occurs in patients with male gender. Pangaribuan said gender problems are something that happens anatomically that causes the chance of lung TB but is caused by the frequency of activity, long in work with a low ventilation and life style environment such as smoking behavior [8], [12].

Aini's research results statement (2021) also supports previous research statements that said the relationship of smoking with lung TB incidence is mutual. This case affects many sufferers with male gender than women who generally have a habit of smoking [5].

Meanwhile, according to Samsugito (2018) the results of the study picture said the comparison of incidence between lung TB sufferers in patients with male and female gender compared to the same. Male and female genderes do not make lung TB incidence rates more dominant [13].

5. CONCLUSIONS AND SUGGESTIONS

Lung tuberculosis (TB) incidence figures based on age and gender characteristics found that the incidence of pulmonary TB at the age of 14-45 years is higher than at the age of > 45 years. The age of 14-45 years is a productive age with high mobility. This condition is susceptible to the opportunity to inhale droplets of TB sufferers in new environments. The incidence of pulmonary TB is more common in people with male gender compared to women. This condition is supported by high activity often done by sufferers with male gender and also less healthy life styles such as smoking.

AUTHORS' CONTRIBUTIONS

Factors Related To The High Incidence Of Pulmonary Tuberculosis (Tb) In The Working Area Of Andalas Padang Health Center

Systematic Review: Effect Of Giving Honey To Burns In Cancer Patients With Radio Therapy

Relationship Of Socioeconomic Status And Nutritional Status To The High Incidence Of Pulmonary Tb In The Working Area Of Andalas Padang Health Center

ACKNOWLEDGMENTS

Thank You Very Much To The International Conference Of Stikes Syedza Saintika Padang Which Provides Facilities To Be Able To Contribute To This Activity.

REFERENCES

[1] R. Kemenkes, "Riset Kesehatan Dasar (RISKESDAS) 2013," *Lap. Nas. 2013*, pp. 1–384, 2013, doi: 1 Desember 2013.

[2] World Health Organization, "Country profiles," *Glob. Tuberc. Rep.*, p. 172, 2017, [Online]. Available: http://www.who.int/tb/publications/global_report/gtbr2017_annex2.pdf?ua=1%0AData for all countries and years can be downloaded from www.who.int/tb/data.

[3] M. SIREGAR, A. B.-J. A. Kesehatan, and undefined 2017, "Faktor-Faktor Yang Berhubungan Dengan Kejadian Tuberkulosis Paru BTA Positif Pada Pasien Rawat Jalan Di UPT Puskesmas Wonosobo Kabupaten Tanggamus," *ejurnal.poltekkes-tjk.ac.id*, Accessed: Jan. 31, 2021. [Online]. Available: https://ejurnal.poltekkes-tjk.ac.id/index.php/JANALISKES/article/view/464.

[4] T. Zubaidah and R. Setyaningrum, "Karakteristik Penderita TB Paru Pengguna OAT Di Indonesia," 2015. Accessed: Jan. 31, 2021. [Online]. Available: http://jurnal.syedzasaintika.ac.id/index.php/meditory/article/view/245.

[5] P. Studi, M. Kesehatan, and U. Diponegoro, "Faktor-faktor yang Mempengaruhi

Kejadian Tuberkulosis: Sebuah Review Nur'aini*, Suhartono*, Mursid Raharjo* *," vol. 13, no. 1, pp. 20–25, 2021.

[6] L. T. Alberta, D. T. P. Tyas, A. Muafiroh, and S. Yuniarti, "Faktor Yang Berhubungan Dengan Kejadian Tuberkulosis Paru di Wilayah Puskesmas Pacarkeling Surabaya," *J. Penelit. Kesehat.*, vol. 19, no. 1, pp. 20–25, 2021, doi: 10.35882/jpk.v19i1.5.

[7] B. Suseno, "Karakteristik Penderita TB Paru Di Wilayah Kerja Puskesmas Madukara 2 Tahun 2020," vol. 3, no. 2, p. 6, 2021.

[8] A. R. Savitri, "Karakteristik Penderita Tuberkulosis Paru Dengan Diabetes Melitus Di Kabupaten Badung Tahun 2017-2018," *E-Jurnal Med. Udayana*, vol. 10, no. 1, pp. 60–64, 2021, [Online]. Available: https://ocs.unud.ac.id/index.php/eum/article/view/70963.

[9] V. D. Pongkorung *et al.*, "Faktor Risiko Kejadian Tb Paru Di Wilayah Kerja Puskesmas Amurang Tahun 2020," vol. 10, no. 4, pp. 151–157, 2021.

[10] S. Andayani, "Prediksi Kejadian Penyakit Tuberkulosis Paru Berdasarkan Jenis Kelamin," *J. Keperawatan Muhammadiyah Bengkulu*, vol. 8, no. 2, pp. 135–140, 2020, doi: 10.36085/jkmu.v8i2.1063.

[11] L. Pangaribuan, K. Kristina, D. Perwitasari, T. Tejayanti, and D. B. Lolong, "Faktor-Faktor yang Mempengaruhi Kejadian Tuberkulosis pada Umur 15 Tahun ke Atas di Indonesia," *Bul. Penelit. Sist. Kesehat.*, vol. 23, no. 1, pp. 10–17, 2020, doi: 10.22435/hsr.v23i1.2594.

[12] F. Bakri, H. K. Hengky, and F. Umar, "The Mapping of Risk Factors of Genesis Tuberculosis in Parepare City," *J. Ilm. Mns. dan Kesehat.*, vol. 4, no. 2, pp. 266–278, 2021.

[13] I. Samsugito, "Jurnal Kesehatan Pasak Bumi Kalimantan (Publikasi Artikel Scince dan Art Kesehatan, Bermutu, Unggul, Manfaat dan Inovatif) JKPBK Vol. 1. No. 1 Juni 2018," vol. 1, no. 1, pp. 51–71, 2018.