



## DETERMINANTS OF THE QUALITY OF LIFE OF PULMONARY TUBERCULOSIS (PTB) PATIENTS IN SURABAYA CITY

Eppy Setiyowati<sup>1</sup>, Umi Hanik<sup>2</sup>, Diba Adiba<sup>3</sup>, Elok Mazida<sup>4</sup>, Ratna Sri Wahyuni<sup>5</sup>, Feri Agus Andriawan<sup>6</sup>, Siti Hardianti<sup>7</sup>

<sup>1,2,3,4,5,6,7</sup> Universitas Nahdlatul Ulama Surabaya, Surabaya, Indonesia

### ARTICLE INFORMATION

Received: August, 9, 2019  
Revised: February, 28, 2020  
Available online: August, 2020

### KEYWORDS

Quality of life, pulmonary tuberculosis, mycobacterium, and health care

### CORRESPONDENCE

E-mail: eppy@unusa.ac.id

### A B S T R A C T

**Introduction:** Tuberculosis (TB) is an infectious disease caused by *Mycobacterium tuberculosis*, which can attack various organs, especially the lungs. The infectious disease untreated or treatment is not complete can causing complications dangerous until death. TB estimated to have existed in the world since 5000 BC, but advances in the discovery and control of new TB disease occurred in 2 of the last century. This study aimed to determinat the quality of life of Pulmonary Tuberculosis (PTB) patients in Surabaya City for the July-September 2020. **Method:** The research utilized descriptive with survey approach on three large health centers with a total population sample of 60 respondents. Data were collected through the use of a questionnaire-checklist, through purposive sampling techniques, then performed the frequency distribution and cross tabulation. **Result:** The results showed that most a very strong determinant factor in occurrence of pulmonary TB is a feeling of pain towards one self that is  $\alpha = 0.987$  meaning that of the 3 (three) determinants that influence the occurrence of pulmonary TB in adults is a feeling factor towards itself. **Conclusion:** The conclusion shows that determinant quality of life in patients with pulmonary tuberculosis have searched for health services to the health service, satisfied with the health workers, but there is no hope of life to recover. I suggest that recommend a more double activity like: a) What the Department / Ministry of Health can do to address TB among the people. b) The role of health workers to uplift the hope of patients or to create awareness in them that PTB is curable.

## INTRODUCTION

Tuberculosis (TB) control in Indonesia has been ongoing since the Dutch colonial era but is still limited to certain groups. After the war for independence, TB was tackled through the Pulmonary Disease Treatment Center (BP-4). Tuberculosis (TB) is an infectious disease caused by the bacterium *Mycobacterium tuberculosis*, which can attack various organs, especially the lungs. This disease if not treated or treatment is incomplete can cause dangerous complications to death. TB is estimated to have existed in the world since 5000 BC, but progress in the discovery and control of TB has only occurred in the last 2 centuries (Infodatin, 2015).

Since 1969 TB control has been carried out nationally through the Puskesmas. In 1995, the national TB control program began implementing a short-term treatment strategy with direct supervision (Directly Observed Treatment Short-course, DOTS) which was implemented in a

puskesmas in stages. Since 2000 the DOTS strategy has been implemented nationally throughout all the Health Care Institutions, especially the Puskesmas, which is integrated in basic health services (Infodatin, 2015).

Although anyone can get TB, the disease develops rapidly in people living in poverty, marginalized groups, and other vulnerable populations. Population density in Indonesia is 136.9 per km<sup>2</sup> with the number of poor people in September 2017 of 10.12%. Since the first reported TB case in Indonesia, various efforts have been made by the government through the ministry of health. These efforts began the process of suspecting screening, detecting and recording cases, treating patients, and administering multi drug resistance (MDR). During this time TB suspects that have been netted by health services undergo laboratory examination, at this stage an indicator of the proportion of new pulmonary TB patients confirmed to be confirmed among TB suspects. This indicator is the percentage of new patients with bacteriological confirmed pulmonary TB (positive BTA and positive MTB) found among all suspects examined for sputum. This figure illustrates the quality from the discovery process to the patient's diagnosis and establishes the expected criteria. Factors affecting the presence of pulmonary TB cases so far have not been conducted research on environmental conditions and public health, for that researchers intend to explore the determinants of TB cases in Surabaya with indicators: quality of life. The purpose of this study was to determine the determinants of quality of life in pulmonary TB patients in Surabaya.

Results of the study can be utilized by the Department / Ministry of Health in intensifying their health programs in addressing PTB. The result may also serve as a basis for the academe to discuss comprehensively PTB to the students. Lastly, as a guide for the health workers to educate the people that PTB is curable and that people should not lose hope to recover.

## **METHOD**

The study utilized a descriptive type of research and a survey approach, a sample size of 60 respondents was taken from total isolation at three puskesmas in the City of Surabaya through a purposive sampling technique. Quality of life variables include the respondents' perception of their illness, utilization of health services, the meaning of life for the respondents, respondents' satisfaction with family and health services. Data collection was made through the use of a

questionnaire-checklist. Data were treated through the use of frequency distribution and cross tabulation.

## RESULT

General data of respondents from the research results include; age, sex, education level, religion, occupation, type of TB, as shown in the following table;

Table 1. Distribution of age frequency of respondents in the Surabaya City Health Center

No	Age	Frequency	%
1.	10 th – 20 th	8	13,3
2.	21 th – 30 th	9	15,0
3.	31 th – 40 th	5	8,3
4.	41 th – 50 th	19	31,7
5.	51 th – 60 th	18	30,0
6.	61 th – 70 th	1	1,7
Total		60	100

In table 1. it can be seen that the age of respondents is mostly 41 - 50 years at 31.7%.

Table 2 Frequency Distribution of Respondents' Education Level in Surabaya City Health Center.

No	Education Level	Frequency	%
1.	Primary school	7	11,7
2.	Junior high school	14	23,3
3.	Senior High School	30	50,0
4.	College	8	13,3
5.	No school	1	1,7
Total		60	100

Table 2. shows that the education level of the respondents is half 50.0% of the 60 senior high school respondents.

Table 3. Distribution of Religious Frequency of respondents in Surabaya City Health Center in 2019

No	Religion	Frequency	%
1.	Islam	56	93,3
2.	Katolik/Kristen/Protestan	3	5,0
3.	Hindu	1	1,7
Total		60	100

In table 1.3 it was found that almost all 93.3% of the respondents' religions were Muslim.

Table 4. Distribution of respondent's work frequency at Surabaya City Health Center in 2019.

No	Work frequency	Frequency	%
1.	Pension	5	8,3
2.	Private	41	68,3
3.	Housewife	10	16,7
4.	Not yet working	4	6,7
Total		60	100

In table 4. it can be seen that the work of respondents is almost entirely 68.3% of the 60 respondents are private.

Table 5. Frequency Distribution of type tuberculosis respondents in Puskesmas Surabaya City in 2019

No	Type of Tuberculosis	Frequency	%
1.	Pulmonary tuberculosis	51	85,0
2.	Extra Pulmonary tuberculosis	9	15,0
	Total	60	100

Types In Table 5 it can be seen that the type of TB disease suffered by respondents almost 85.0% of 100 respondents are pulmonary TB.

Table 6. Determinants of pulmonary TB determinant factor in the Surabaya City Health Center in 2019

No	Determinant Factor	Sign	Inform
1.	Activity	0.928	Very strong factor
2.	Feeling	0.987	Very strong factor
3.	Self ability	0.967	Very strong factor

In table 6 it can be seen that a very strong determinant factor in occurrence of pulmonary TB is a feeling of pain towards oneself that is  $\alpha = 0.987$  meaning that of the 3 (three) determinants that influence the occurrence of pulmonary TB in adults is a feeling factor towards itself.

## DISCUSSION

### A. Identifying quality of life in TB cases through a questionnaire survey

The results of identification of quality of life data in patients with pulmonary tuberculosis obtained from 2 (two) study sites, namely the Perak Timur health center and Sawahan health center as in tables 1.1 to 1.6 described in chapter 5 about the results of the study.

In table 1.1 it is known that the patients with pulmonary tuberculosis in both puskesmas are mostly 41 to 50 years old at 31.7%. This shows that pulmonary TB sufferers attack at the age of the elderly, where at the age of the elderly there has been a decline in function and strength of the body. This is in line with the opinion of Kartini Kartono (2016), stating that growing old is certain and the decline in function and strength of the body in humans begins to be felt. As people age, strength and function of the body begins to decline. With increasing age a person will also cause changes in the quality of human life, so a person can no longer be strong enough to withstand the very heavy burden of life that is felt to be very heavy and tiring.

In table 1.2 it is known that half of the respondents' education level is 50.0% of the 60 respondents being senior high school. This shows that the level of education of respondents is quite high so that respondents will be easy to receive information and education for behavior change in an effort to improve the quality of life in patients with pulmonary tuberculosis. Table 1.3 understands that almost all 68.3% of the 60 respondents were private. This is actually in line with Rubbyana's research, Urifah (2012) stated that most pulmonary TB sufferers were suffered by private workers, namely cigarette factory workers and industry factory workers. This was caused by the air that occurred in the area around the workers had been polluted with factory pollution, causing the air that the workers inhaled became unclean.

#### B. Identifying individual behavioral factors in pulmonary TB cases through a questionnaire survey

The results of the identification of the determinant factors that affect pulmonary TB in the Perak Timur Health Center and the Sawahan Health Center are listed in table 1.6. states that of the 3 determinant factors there is a feeling factor towards the disease showing a very strong factor compared to other factors that influence the determinant of quality of life in patients with pulmonary tuberculosis.

Donald (in Uriah, 2012) states that the quality of life is a terminology that shows the physical, social and emotional health of his ability to carry out daily tasks. According to Karangora (2012) defines the quality of life as the perception of a person in the cultural context and norms that correspond to the place of life of a person as related to the goals, expectations, standards and caring for his life. The quality of life of one individual with the others will be different, it depends on the definition or interpretation of each individual about the quality of a good life. Quality of life will be very low if aspects of the quality of life of grace are not met.

According to WHO (1996) there are four aspects of life quality, including the following:

1. Physical health, including daily activities, dependence on medical aids, medical help, energy and fatigue, mobility, pain and discomfort, sleep and rest, work capacity.
2. Psychological well-being, including body image and appearance, negative feelings, positive feelings, price, spirituality / religion / personal beliefs, thinking, learning, memory and concentration.
3. Social relationships, including personal relationships, social support, sexual activities.

4. Relationships with the environment, including financial resources, freedom, physical security and health security and social care: environmental accessibility and quality, home environment, Opportunities to obtain information on new skills, participation in and opportunities for activities in creation / sport, physical environment (pollution / sound / traffic / climate), climate.

According to WHOQOL-BREF (Inrapley, 2003) there are four aspects regarding the quality of life, among them the following: (Nimas, 2012):

1. Physical health, including daily activities, dependence on drugs, energy and fatigue, mobility, pain and discomfort, sleep / rest, work capacity.
2. Psychological well-being, including body image appearance, negative feelings, positive feelings, self-esteem, spiritual / religious / personal beliefs, thinking, learning, memory and concentration.
3. Social relationships, including personal relationships, social support, sexual activities.
4. Relationships with the environment include financial resources, freedom, security and physical safety, health care and social activities including accessibility/quality, environmental environment, opportunities to get various information, new and skillful, partisan, and get opportunities to deal with environmental/environmental transgressions, environmental / environmental transgressions, environmental / environmental transgressions.

## CONCLUSION

I suggest that recommend: 1) What the Department / Ministry of Health can do to address TB among the people, 2) The role of health workers to uplift the hope of patients or to create awareness in them that PTB is curable.

## REFERENCE

- Adeyeye, O.O., Ogunleye, O.O., Coker, A., Kuylnu, Y., Bamisile, R.T., Ekrikpo, U., & Onadeko, B. (2014). Factors influencing quality of life and predictors of low quality of life scores in patients on treatment for pulmonary tuberculosis: a cross sectional study. *Journal of Public Health in Africa vol 5:366*, 88-92.
- Ahmad, N., Javaid, A., Sulaiman, S.A.S., Basit, A., Afridi, , A.K., Jaber, A.A.S., & Khan, A.H. (2016). Effect of Multidrug Resistant Tuberculosis Treatment on Patients' Health Related Quality of Life: Results from a Follow Up Study. *Plos One11 (7)*, 1-16.

- Akhsata, J.S., Anushree, C. (2016). Management of multidrug resistant tuberculosis (MDR-TB)- Monitoring is the key to successful outcome. *Egyptian Journal of Chest Disease and Tuberculosis vol 65 issue 2*, 447-450.
- Alene, K.A., Clements, A.C.A., McBryde, E.S., Jaramillo, E., Lonroth, K., Shaweno, D., Gulliver, A., & Viney, K. (2018). Mental health disorders, social stressors, and health-related quality of life in patients with multidrug-resistant tuberculosis: A systematic review and meta-analysis. *Journal of Infection vol 77 issue 5*, 357-367.
- Al-Qahtani, M.F., El-Mahalli, A.A, Al-Dossary, N., Muhaish, A.A, Otaibi, S.A., & Baker, F.A. (2014). Health-related quality of life of tuberculosis patients in the Eastern Province, Saudi Arabia. *Journal of Taibah University Medical Science 9(4)*, 311-317
- Asgedom, S.W., Teweldemedhin, M., Gebreyesus, H. (2018). Prevalence of Multidrug-Resistant Tuberculosis and Associated Factors in Ethiopia: A Systematic Review. *Journal of Pathogens*, 1-8. Diakses pada 5 November 2018 jam 13.55 WIB dari <https://www.hindawi.com/journals/jpath/2018/7104921/>.
- Brown, J., Capocci, S., Smith, C., Morris, S., Abubakar, I., Lipman, M. (2015). Health status and quality of life in tuberculosis. *International Journal of Infectious Disease 32*, 68-75.
- Dawar, U., Garg, A., Oswal, R., & Patel, K.R. (2016). A study of prevalence of depression in patients multi drug resistant tuberculosis. *European Respiratory Journal (48)*. Diakses dari [http://erj.ersjournals.com/content/48/suppl\\_60/PA2690](http://erj.ersjournals.com/content/48/suppl_60/PA2690) pada 1 November 2018 jam 12.10 WIB
- Farias, S.N.P, Medeiros, C.R.S, Paz, E.P.A, Lobo, A.J.S.L, & Ghelman, L.G. (2013). Completeness in caring: Study of Quality of Life in Clients with Tuberculosis. *Esc Anna Nery 17(4)*, 749-754.
- Falzon, D., Mirzayev, F., Wares, F., Baena, I.G., Zignol, M., Linh, N., Weyer, K., Jaramillo, E., Floyd, K., & Riviglione, M. (2015). Multidrug-resistant tuberculosis around the world: what progress has been made?. *Eur Respir J; 45*, 150-160.
- Hays, R.D. & Morales, L.S. (2001). The RAND-36 measure of health-related quality of life. *Ann Med, 33*, 350-357.
- He, X., Zang, X., Zhao, J., Liu, Y., Yu, C., Yang, G., Li, H. (2016). Epidemiological Trends of Drug Resistant Tuberculosis in China from 2007 to 2014: A Retrospective Study. *Medicine vol 95 issue 15*, 1-7.
- Kakhki, A.D. & Masjedi, M.R. (2015). Factors Associated with Health-Related Quality of Life in Tuberculosis Patients Referred to the National Institute of Tuberculosis and Lung Disease in Tehran. *Tuberculosis and Respiratory Disease, 78*, 309-314.
- Kendall, E.A., Azman, A.S., Cobelens, F.G., & Dowdy, D.W. (2017). MDR-TB treatment as prevention: The projected population level impact of expanded treatment for multidrug-resistant tuberculosis. *Plos One 12(3)*, 1-16. Diakses dari <https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0172748&type=printable> pada 5 November 2018 jam 14.07 WIB.
- Onyedum, C.C., Alobu, I., & Ukwaja, K.N. (2017). Prevalence of drug-resistant tuberculosis in Nigeria: A systematic review and meta-analysis. *Plos One 12(7)*, 1-17. Diakses dari

<https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0180996&type=printable>  
pada 5 November 2018 jam 14.02 WIB.

- Peddireddy, V. (2016). Quality of Life, Psychological Interventions and Treatment Outcome in Tuberculosis Patients: The Indian Scenario. *Frontiers in Psychology*, vol 7(1664), 1-9.
- Prakash, B., Sahu, D., Khare, P., & Bhatnagar, A.K. (2016). Multidrug resistant tuberculosis: Understanding the past for the better future. *Int. Med. Public Health* vol 6 issue 1, 45-49.
- Rajkumar, L. C. (2015). Quality of Life of Multi Drug Resistant Tuberculosis Patients in India. *International Multidisciplinary Research Journal* vol 5 issue 2, 1-8.
- Sharma, R., Yadav, R., Sharma, M., Saini, V., & Koushal, V. (2013). Quality of Life of Multidrug Resistant Tuberculosis Patients: a Study of North India. *Acta Medica Iranica*; 52(6), 448-453.
- Udwadia, Z.F., & Moharil, G. (2016). Multidrug-resistant-tuberculosis treatment in the Indoan private sector: Result from a tertiary referral private hospital in Mumbai. *Lung Indoa* vol 31 issue 4, 336-341.
- Warkicho, A., Kassahun, W., & Alemseged, F. (2017). Risk factors for multidrug-resistant tuberculosis among tuberculosis patients: a case-control study. *Dovepress*: 10, 91-96.
- WHO. (2018). WHOQOL: Measuring Quality of Life. *World Health Organization*. Diakses dari <http://www.who.int/healthinfo/survey/whoqol-qualityoflife/en/> pada 30 Oktober 2018 jam 13.45 WIB.