

Study of Social Support and Factors Affecting Efforts Improving The Quality of Life of Patients with Pulmonary Tuberculosis

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Abstract

Study of Social Support and Factors Affecting Efforts Improving the Quality of Life for Patients with Lung Tuberculosis. Tuberculosis (TB) is an infectious disease caused by the bacterium *Mycobacterium tuberculosis*. Decrease in the quality of life of tuberculosis patients can have a negative impact on the continuity of therapy which causes failure of therapy. The quality of life of pulmonary TB patients is important to be assessed in various aspects ranging from the aspects of physical well-being, psychology, social and environmental relations. The purpose of this study was to examine social support and influencing factors influencing efforts to improve the quality of life of pulmonary TB patients. This type of research is observational research using cross sectional design. The study population was all pulmonary tuberculosis patients in Palembang City. This study received a total sample of 111 people. The quality of life was measured by the Indonesian WHOQOL-BREF questionnaire instrument and the results were obtained by univariate, bivariate, and multivariate analysis using the SPSS 22 program. Of the 111 study respondents, a good percentage of the quality of life of tuberculosis patients in Palembang City Health Center was 71.17% and the not good at 28.83%. There was no significant relationship between demographic characteristics (age, sex, body mass index, education level, employment status, and marital status), blood pressure, history of diabetes, and history of smoking with quality of life. There is a significant relationship between treatment duration, family support, friend support, and community support with the quality of life of tuberculosis patients (p value <0.05). Patients with tuberculosis with poor family support have the opportunity to have a poor quality of life of 86.18%.

Key Words: Social support, quality of life, sociodemographic characteristics, pulmonary tuberculosis

1. Introduction

Tuberculosis (TB) is an infectious disease caused by the bacteria *Mycobacterium tuberculosis*. These bacteria usually attack the lungs, but can also attack other organs such as the kidneys, spine, and brain.¹

In 2012, there were around 8.6 million TB cases of which 1.1 million (13%) cases were HIV positive TB patients.² At present, Indonesia ranks second in the country with the highest TB burden in Southeast Asia after India.³ The incidence of TB in Indonesia continues to increase every year. In 2016 there were 156,723 pulmonary TB patients with smear positive in Indonesia.⁴ Palembang City is an area in the region of South Sumatra with the highest TB rate, reported 145 pulmonary tuberculosis suspects, including 658 patients with AFB (+) pulmonary tuberculosis. Pulmonary tuberculosis cases in Palembang with BTA (+) showed an increasing trend since 1997.⁵

At present, treatment and assessment of tuberculosis patient recovery is not only limited to clinical results such as physical condition, decreased morbidity and mortality, and laboratory examination results, but also includes patient satisfaction and quality of life that affect the success of therapy. Decreasing quality of life of tuberculosis patients can negatively impact the continuity of therapy, leading to treatment failure.⁶

Social support is an effort to improve the quality of life in pulmonary tuberculosis patients. Humans as social beings cannot live alone without the help of others. Physical needs (clothing, food, shelter); social needs (association, recognition and psychological needs including curiosity, security, religious feelings) cannot be fulfilled without the help of others. Especially if someone is facing both minor and severe problems. It is at this time that a person will seek social support from the people around him, so that, he feels valued, cared for and loved.⁷

Social support is important for people with chronic disease because social support can affect individual behavior, such as reducing anxiety, helplessness and hopelessness, which in turn can improve health status. Increasing

health status means improving the quality of life for sufferers.⁸

The quality of life of tuberculosis patients is the treatment and assessment of patient recovery that affects the success of therapy. The decline in the quality of life of tuberculosis patients can have a negative impact on the continuity of therapy, leading to treatment failure causing treatment to be interrupted or incomplete. Quality of life for pulmonary tuberculosis patients is important to be assessed in various aspects ranging from aspects of physical well-being, Psychology, social relations and the environment. Based on the background and conditions above, the researchers are interested in conducting research on social support studies and the factors that affect efforts to improve the quality of life in pulmonary tuberculosis patients.

2. Research Methods

This study was an observational study using a *cross sectional* design. The research was conducted at Puskesmas Palembang, namely Puskesmas Pakjo, Pundi Kayu, Ariodillah, Sukarami, Kertapati, Talang Ratu, Multiwahana, Padang Salasa, 11 Ilir, Karya Jaya, Taman Bacaan, and Keramasan. The research was conducted on 28 May - 01 September 2018.

The sampling method used was *total sampling* method. In this way, all pulmonary TB patients who met the inclusion criteria were consecutively taken up to the end of the study deadline

3. Research Results

In the implementation of research that was carried out in the period from May to September 2018, the final number of respondents was 111 respondents.

Univariate Analysis

Table 1. In this study, the sex of TB patients was classified into two groups, namely male and female. Most respondents were male, namely 60 people (54.1%) of the female respondents, amounting to 51 people (45.9%)

In **Table 2.** In this study, the ages of TB patients were classified into three groups,

namely ages 17-45 years, 46-74 years, and 75-88 years. Respondents were mostly found in the age group 17-45 years, as many as 60 people (54.05%), then the age group in the 46-74 years age group, 49 people (44.14%), and at least in the 75- 88 years, as many as 2 people (1.80%).

Data on Body Mass Index (BMI in pulmonary TB patients are presented in **Table 3**. In this study, TB patients were classified into two groups, namely the normal BMI group (18.5-25 kg/m²) and the BMI group is not normal. namely the BMI category is underweight (25 kg/m²). Most respondents came from the normal BMI group, namely 58 people (52.25%), compared to the abnormal BMI group of 53 people (47.75%).

The marital status of TB patients in this study is presented in **Table 4**. Of the 111 respondents, it was classified into two groups, Namely, unmarried and married. Most of the respondents were married. namely as many as 85 people (76.58%) compared to those who were not married. namely 26 people (23.42%).

As shown in **Table 5**. in this study, the last education of TB sufferers was classified into two groups, namely the low education group (did not complete SD / SD / SMP) and the higher education group (SMA). Most respondents have a low educational background, namely 71 people (64.00%) compared to those with high education and 40 people (36.00%)

In **Table 6**. In this study, the employment status of TB patients is classified into two groups, namely unemployment and work. Respondents who have worked as many as 54 people (48.65%) and those who do not work are 57 people (51.35%).

In **Table 7**. In this study, the economic status of TB patients is classified into two income groups, namely IDR 2.388.000.00. 107 respondents (96.40%) had an income of IDR 2.388.000.00 and 4 respondents (3.60%) had an income of >IDR 2.388.000.00.

Data on smoking history in pulmonary TB patients are presented in **Table 8**. In this study, smoking history in TB patients was classified as smoking and non-smoking. There were the most respondents who did not smoke, namely 62

people (52.66%), while the respondents who smoked were 49 people (44.34%).

As shown in **Table 9**. In this study, blood pressure in TB patients was classified into two groups, namely hypertension and non-hypertension. Most respondents did not have a history of high blood pressure as many as 84 people (75.68%) than those who had a history of high blood pressure alone, namely 27 people (24.32%).

Data on the length of treatment in TB patients shown in **Table 10** are classified into two groups, namely the initial treatment phase and the follow-up treatment phase. Based on the data presented in table 10. there were the same number of respondents in the early stage, namely 71 people (63.96%), while the advanced phase was 40 people (36.04%).

Table 11. shows the distribution of respondents based on a history of suffering from diabetes mellitus (DM). TB patients are classified into two groups, namely Diabetes Mellitus and non-Diabetes Mellitus. Most respondents did not have a history of Diabetes Mellitus. namely 94 people (84.7%) than 17 people (15.3%).

In this study, social support for TB patients is shown in **Table 12**. There are three components, namely support from family, friends, and the community. Each component of social support is classified into two groups, namely groups that do not support and support. There were 55 people (49.5%) who received support from their families and 56 people (50.5%) did not get support from their families. There were 42 respondents (37.8%) who received support from friends and 69 respondents (62.2%) who did not receive support from friends. There were 49 respondents (44.1%) who received support from the community and 62 respondents (55.9%) did not receive support from the community.

In this study, the quality of life of TB patients was classified into two groups, namely the poor and good groups. Based on the data presented in **Table 13**. there are 65 respondents (58.6%) who have a poor quality of life and 46 respondents (41.4%) who have a good quality of life

Table 1. Distribution of Respondents by Gender (N = 111)

Sex	N	%
Male	60	54.1%
Female	51	45.9%
Total	111	100%

Table 2. Distribution of Respondents by Age (N = 47)

Age Category	N	%
17-45 years	60	54.05%
46-74 years	49	44.14%
75-88 years	2	1.80%
Total	111	100%

Table 3. Distribution of Respondents by Status Marriage (N = 111)

BMI	N	%
Normal	58	52.25%
Abnormal	53	47.75%
Total	111	100%

Table 4. Distribution of Respondents Based on Marriage Status (N = 111)

Level of education	N	%
Married	85	76.58%
Unmarried	26	23.42%
Total	111	100%

Table 5. Distribution of Respondents by Last Education (N = 111)

Economic Status	N	%
Lower Education	71	64.00%
Higher Education	40	36.00%
Total	111	100%

Table 6. Distribution of Respondents Based on Employment Status (N = 111)

Employment Status	N	%
Working	54	48.65%
Unworking	57	51.35%
Total	111	100%

Table 7. Distribution of Respondents Based on Economic Status (N = 111)

Economic Status	N	%
Rp. 2.388.000.00	107	96.40%
> Rp. 2.388.000.00	4	3.60%
Total	111	100%

Table 8. Distribution of Respondents Based on Smoking History (N = 111)

Smoking History	N	%
No-smoking	62	52.66%
Smoking	49	44.34%
Total	111	100%

Table 9. Distribution of Respondents Based on History of Blood Pressure (N = 111)

History of Blood Pressure	N	%
Hypertension	27	24.32%
Non-hypertension	84	75.68%
Total	111	100%

Table 10. Distribution of Respondents Based on Duration of Treatment (N = 111)

Duration of treatment	N	%
Initial treatment	71	63.96%
Continued treatment	40	36.04%
Total	111	100%

Table 11. Distribution of Respondents Based on History of Diabetes Mellitus (N = 111)

History of Diabetes Mellitus	N	%
Diabetes Mellitus	49	44.34%
Non – Diabetes Mellitus	94	84.7%
Total	111	100%

Table 12. Distribution of Respondents Based on Social Support (N = 111)

Social Support	Support		Unsupport		Total	
	n	%	N	%	N	%
Family	55	49.5	56	50.5		
Friends	42	37.8	69	62.2	111	100
Community	49	44.1	62	55.9		

Table 13. Distribution of Respondents by Quality of Life (N = 111)

Quality of Life	n	%
Not good	65	58.6%
Well	46	41.4%
Total	111	100%

Bivariate Analysis

In **Table 14.** presented data on the relationship between sex and quality of life of TB sufferers. In 65 respondents who had a poor quality of life, the most were male, namely 37 (61.7%) compared to women, namely 28 people (54.9%), meanwhile, for 46 respondents with a good quality of life. the most 23 people (38.3%) were male compared to 23 people (45.1%).

Based on the results of the *Chi-Square* statistical test, it was a obtained p value of 0.471 ($p > \alpha$). meaning that statistically there was no significant relationship between quality of life and gender.

Table 15. presents data on the relationship between age and quality of life for TB sufferers. Of the 32 respondents who had a poor quality of life, it was found that most of them came from the 17-45 years age group, namely 16 people (26.7%), then the 46-74 years age group namely 14 people (28.6%) and the least age group 75-88 years. namely 2 people (100%). The

79 respondents who had a good quality of life came mostly from the same age group, namely 17-45 years, namely 44 people (73.3%), followed by the 46-74 years age group of 35 people (71.4%) and not there are respondents from the age group 75-88 years.

Based on the results of the *Chi-Square* statistical test, it was a obtained p value of 0.209 ($p > \alpha$), meaning that statistically there was no significant relationship between quality of life and age.

Table 16 presents data on the relationship between *body mass index* (BMI) and quality of life for TB patients. In 65 respondents who had a poor quality of life, there were more patients with a normal BMI of 35 (60.3%) than those with an abnormal BMI of 30 (56.6%). In 46 respondents who had a good quality of life, 23 people (43.4%) had abnormal BMI and 23 (39.7%) normal BMI.

Based on the results of the *Chi-Square* statistical test, it was a obtained p value of 0.689

($p > \alpha$), meaning that statistically there was no significant relationship between body mass index and quality of life.

Table 17 presents data on the relationship between marital status and quality of life for TB sufferers. In 65 respondents who had a poor quality of life, most of them were married respondents, namely 50 (58.8%) while unmarried 15 (57.7%). Of the 46 respondents who have a good quality of life, the most respondents are married as many as 35 (41.2%) and unmarried 11 (42.3%).

Based on the results of the *Chi-Square* test, it was a obtained p value of 0.918 ($p > \alpha$), meaning that statistically there was no significant relationship between marital status and quality of life.

Table 18 presents data on the relationship between recent education and quality of life for TB sufferers. In 65 respondents who had a poor quality of life, there was a smaller percentage of respondents with a higher education level (SMA or above SMA) as many as 22 people (55.0%) compared to respondents with low education or below high school, namely 43 people (60.6 %). The 46 respondents who had a good quality of life consisted mostly of respondents with low education as many as 28 people (39.4%) compared to respondents with higher education, namely 18 people (45.0%).

Based on the results of the *Chi-Square* statistical test, it was a obtained p value of 0.568 ($p > \alpha$), which means that statistically there is no significant relationship between recent education and quality of life.

In **Table 19**, presented data on the relationship between work status and quality of life of TB sufferers. Of the 65 respondents who had a poor quality of life, most of them came from the unemployed group, namely 33 people (57.9%) compared to those who worked, namely 32 people (59.3%). On the other hand, among the 46 respondents who had a good quality of life, most came from the unemployed group, namely 24 people (42.1%) compared to those who worked, namely 22 people (40.7%).

Based on the results of the *Chi-Square* statistical test, it was a obtained p value of 0.884 ($p > \alpha$), meaning that statistically there was no

significant relationship between recent education and quality of life.

Table 20 is presented about the relationship between smoking history and quality of life for TB patients. Of the 65 respondents who had a poor quality of life, there were the most respondents with a history of not smoking, namely 36 people (58.1%) compared to respondents with a history of smoking, namely 29 people (59.2%). Meanwhile, 46 respondents who had a good quality of life, mostly found in the group of respondents with a history of not smoking, namely 26 people (41.9%) compared to respondents with a history of smoking as many as 20 people (40.8%).

Based on the results of the *Chi-Square* statistical test, it was a obtained p value of 0.905 ($p > \alpha$), meaning that statistically there was no significant relationship between smoking history and quality of life.

In **Table 21**, data on the relationship between blood pressure and quality of life of TB patients are presented. In 65 respondents who had a poor quality of life, 52 people (61.9%) did not have hypertension, and 13 people (48.1%) had a history of hypertension. The 46 other respondents who had a good quality of life, mostly found in the group of respondents without hypertension, namely 32 people (38.1%) compared to hypertension, namely 14 people (51.9%)

Based on the results of the *Chi-Square* statistical test, it was a obtained p value of 0.207 ($p > \alpha$), meaning that there was no statistically significant relationship between blood pressure and quality of life.

In **Table 22**, presented data about the relationship between history of diabetes mellitus and quality of life of TB patients. Of the 65 respondents who had a poor quality of life, the largest group of respondents did not have a history of diabetes mellitus as many as 58 people (61.7%) compared to only 7 people (41.2%).

Likewise with 46 other respondents who had a good quality of life, most percentage came from the group with a history of no diabetes as many as 36 people (38.3%)

compared to 10 people without a history of diabetes mellitus (58.8%).

Based on the results of the *Chi-Square* statistical test, it was obtained a p value of 0.114 ($p > \alpha$), meaning that statistically there was no significant relationship between the history of diabetes and quality of life.

In **Table 23.** data on the relationship between length of treatment and quality of life of TB patients are presented. Of the 65 respondents who had a poor quality of life, the most respondents were in the initial treatment phase as many as 48 people (67.6%) compared to the advanced treatment phase, namely 17 people (42.5%). The other 46 respondents who had a good quality of life, 23 people (32.4%) who were in the initial treatment period compared to 23 people (57.5%).

Based on the results of the *Chi-Square* statistical test, it was obtained a p value of 0.010 ($p < \alpha$), meaning that statistically there was a significant relationship between length of treatment and quality of life.

In this study, social support consisted of 3 components, namely support from family, friends, and the community. Then each component was related to the quality of life of TB sufferers.

In **Table 24.** data on the relationship between family support and quality of life for TB sufferers are presented. Of the 65 TB sufferers who had a poor quality of life, 42 respondents (75.0%) who did not receive support from their families, whereas 23 respondents (41.8%) received family support. Of the 46 TB sufferers who have a good quality of life 32 respondents (58.2%) received support from their families, while 14 respondents (25.0%) had family unsupport.

Based on the results of the *Chi-Square* statistical test. it was obtained a p value of 0.000 ($p < \alpha$), which means that statistically there is a significant relationship between family support and quality of life. The big difference can be seen from the value of OR = 4.174, which means that TB patients who do not receive support from their family have the chance to have a 4.1

times poor quality of life compared to TB patients who receive family support.

In **Table 25.** data on the relationship between peer support and quality of life for TB sufferers are presented. Of the 65 respondents who had a poor quality of life, 50 people with TB who did not receive support from friends (72.5%) and 15 people who received support from friends (35.7%), 46 people with TB with good quality of life received support from friends, Namely 27 people (64.3%), While respondents who did not receive support from friends were 19 people (27.5%).

Based on the results of the *Chi-Square* statistical test, it was obtained a p value of 0.000 ($p > \alpha$), meaning that statistically there was a significant relationship between peer support and quality of life. The big difference can be seen from the OR value = 4.737, which means that TB patients who do not receive support from friends have a 4.7 times chance of having a poor quality of life compared to TB patients who receive support from the community.

In **Table 26.** data on the relationship between community support and quality of life for TB sufferers are presented. The 65 people with TB who had a poor quality of life did not receive community support at most, namely 44 people (71.0%), and respondents with community support were 21 people (42.9%). The other 46 respondents who had a good quality of life, mostly came from the group of respondents with community support, namely 28 people (57.1%) compared to respondents without community support, namely 18 people (29.0%).

Based on the results of the *Chi-Square* statistical test, it was obtained a p value of 0.003 ($p < \alpha$). meaning that statistically there was a significant relationship between community support and quality of life. The big difference can be seen from the value of OR = 3.259, which means that TB patients who do not receive support from the community are likely to have a 3.2 times less good quality of life than TB patients who receive community support.

Table 14. Distribution of Relations between the Sexes and Quality of Life (N = 111)

Gender	Quality of Life				Total		p value	OR
	Not Good		Good		N	%		
	n	%	n	%				
Male	37	61.7	23	38.3	60	100	0.471	1.321
Female	28	54.9	23	45.1	51	100		
Total	65	58.6	46	41.4	111	100		

Table 15. Distribution of the Relationship between Age and Quality of Life (N = 111)

Age	Quality of life				Total		P value
	Not good		Good		N	%	
	N	%	n	%			
17-45	38	63.3	22	36.7	60	100	0.209
46-74	25	51.0	24	49.0	49	100	
75-88	2	100	0	0.	2	100	
Total	65	58.6	46	41.4	111	100	

Table 16. Distribution of the Relationship between Body Mass Index and Quality of Life (N = 111)

BMI	Quality of life				Total		P value	OR
	Not good		Good		N	%		
	N	%	N	%				
Upnormal	30	56.6	23	43	53	100	0.689	0.857
Normal	35	60.3	23	39	58	100		
Total	65	58.6	46	41	111	100		

Table 17. Relationship between Marital Status and Quality of Life (N = 111)

Marital Status	Quality of life				Total		P value	OR
	Not good		Good		N	%		
	N	%	N	%				
Not married	15	57.7	11	42.3	26	100	0.918	0.955
Married	50	58.8	35	41.2	85	100		
Total	65	58.6	46	41.4	111	100		

Table 18. Relationship between Last Education and Quality of Life (N = 111)

Last Education	Quality of life				Total		P value	OR
	Not good		Good		N	%		
	n	%	n	%				
Low	43	60.6	2	39.4	71	100	0.568	1.25
Higher	22	55.0	18	45.0	40	100		
Total	65	58.6	46	41.4	111	100		

Table 19 Relationship between Work and Quality of Life (N = 111)

Last Education	Quality of life				Total		P value	OR
	Not good		Good		n	%		
	n	%	n	%				
Not Working	33	57.9	24	42.1	57	100	0.884	0.945
Working	32	59.3	22	40.7	54	100		
Total	65	58.6	46	41.4	111	100		

Table 20. Relationship between Smoking History and Quality of Life (N = 111)

History of smoking	Quality of life				Total		P value	OR
	Not good		Good		n	%		
	n	%	n	%				
Smoking	29	59.2	20	40.8	49	100	0.905	1.047
Not smoking	36	58.1	26	41.9	62	100		
Total	65	58.6	46	41.4	111	100		

Table 21. Relationship between Blood Pressure and Quality of Life (N = 111)

Blood Pressure	Quality of life				Total		P value	OR
	Not good		Good		n	%		
	n	%	n	%				
Hypertension	13	48.1	14	51.9	27	100	0.207	0.571
Not Hypertension	52	61.9	32	38.1	84	100		
Total	65	58.6	46	41.4	111	100		

Table 22. Relationship between History of diabetes mellitus and Quality of Life (N = 111)

History of DM	Quality of life				Total		P value	OR
	Not good		Good		N	%		
	N	%	N	%				
DM	7	41.2	10	58.8	17	100	0.114	0.434
Not DM	58	61.7	36	38.3	94	100		
Total	65	58.6	46	41.4	111	100		

Table 23. Relationship Between Duration of Treatment and Quality of Life (N = 111)

Duration of Treatment	Quality of life				Total		P value	OR
	Not good		Good		N	%		
	n	%	N	%				
Initial Treatment	48	67.6	23	32.4	71	100	0.010	2.824
Advanced Treatment	17	42.5	23	57.5	40	100		
Total	65	58.6	46	41.4	111	100		

Table 24 Relationship between Family Support and Quality of Life (N = 111)

Family Support	Quality of life				Total		P value	OR
	Not good		Good		N	%		
	n	%	n	%				
Unsupport	42	75.0	14	25.0	56	100	0.00	4.174
Support	23	41.8	32	58.2	55	100		
Total	65	58.6	46	41.4	111	100		

Table 25. Relationship between Friends Support and Quality of Life (N = 111)

Friends Support	Quality of life				Total		P value	OR
	Not good		Good		N	%		
	n	%	N	%				
Unsupport	50	72.5	19	27.5	69	100	0.000	4.737
Support	15	35.7	27	64.3	42	100		
Total	65	58.6	46	41.4	111	100		

Table 26. Relationship between Community Support and Quality of Life (N = 111)

Community Support	Quality of life				Total		P value	OR
	Not good		Good		N	%		
	n	%	n	%				
Unsupport	44	71.0	18	29.0	62	100	0.003	3.259
Support	21	42.9	28	57.1	49	100		
Total	65	58.6	46	41.4	111	100		

Multivariate Analysis

Based on the results of the bivariate analysis, it was found that the length of treatment, family support, friend support, and community support had p value <0.05. Furthermore, the four variables were analyzed

multivariate using the Logistic Regression test to determine the most dominant variable affecting the quality of life of TB patients. In Table 16. there is the final result of the multivariate analysis of the Logistic Regression test.

Based on the results of multivariate analysis, patients with pulmonary TB who do not receive family support are 0.260 times and do not receive community support by 0.410 times the risk of having a poor quality of life compared to TB patients who receive family support and community support.

Logistic Regression Equation

Based on the above calculations. the equation model formed is as follows:

$$Y = \text{constant} + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3$$

$$= 5.066 + [(-0.997 \times 1) + (-1.345 \times 1) + (-0.893 \times 1)] = 1.831$$

Probability for Poor Quality of Life

To predict the probability that a TB patient has a poor quality of life are as follows:

$$p = \frac{1}{1 + \exp(-y)} = \frac{1}{1 + \exp(-1.831)}$$

$$= 0.8618$$

Based on the results of the probability calculation above, it can be concluded that there is a possibility for TB patients with poor family support as much as 86.18% to have a poor quality of life.

Table 16. Final Results of the Multivariate Logistic Regression Test

	Coefficient	S.E	Wald	Df	P Value	OR	CI 95%	
							Min	Max
Duration of Treatment	-0.997	0.452	4.877	1	0.027	0.369	0.152	0.894
Support of Family	-1.345	0.438	9.424	1	0.002	0.260	0.110	0.615
Support Of Community	-0.893	0.435	4.218	1	0.040	0.410	0.175	0.960
Constanta	5.066	1.128	20.154	1	0.000	158.544		

4. Discussion

In this study, 111 tuberculosis patients were found. Based on gender, TB incidence most often occurred in males, namely 60 people (54.1%) of the female respondents, amounting to 51 people (45.9%). Of all TB patients, both men and women. most of them had a poor quality of life. in the statistical analysis there was no relationship between quality of life and sex. In a study conducted at the Noongan Regional Hospital, it was found that the incidence of TB was more common in men than in women. The cause of this cannot be explained with certainty, but it is often associated with male habits such as smoking. alcohol consumption, and strenuous activities that can reduce the body's defense system.⁹

Based on age, most TB patients were found in the 17-45 years age group, namely 60 people (54.05%). The number of TB sufferers in the 17-45 year age group may be due to those at that age who are more productive and are more often outside the home so that the transmission rate is high. In this study, it was found that most

of the age groups had a poor quality of life, but statistically there was no relationship between age and quality of life. Similar results were also obtained in previous studies, namely the productive age group was the largest age group for tuberculosis patients, namely 85 patients (81%).¹⁰

Among the 111 TB patients, 58 people (52.25%) had normal BMI, while 53 people (47.75%) had abnormal BMI. In this study, it was found that most patients who had an abnormal BMI had a poor quality of life, namely 30 people (56.6%). This is also similar to previous studies where the majority of abnormal BMIs have a poor quality of life.¹¹

From the results of the study, more respondents were married, namely 85 people (76.58%) compared to 26 people (23.42%) who were not married. Most of the unmarried TB patients had a poor quality of life, namely 15 people (57.7%). These results are also similar to previous studies which show that married individuals have a better quality of life compared to unmarried individuals.¹²

In this study, out of 111 respondents, 71 people (64.00%) had a low educational background compared to 40 people (36.00%) of higher education. Most of the respondents with low education or below high school have a poor quality of life, namely 43 people (60.6%). This is in line with the existence of knowledge or higher education which is important for the formation of a person's behavior and actions regarding the handling of a disease. The level of education also affects the health behavior of individuals in undergoing a disease.¹³

The results of the study found that respondents who worked as many as 54 people (48.65%) and those who did not work were 57 people (51.35%). From the analysis, it was found that 65 respondents had a poor quality of life, and most of them came from the group who did not work, namely 33 people (57.9%). This is similar to previous studies which showed that 39 people (72.2%) of TB patients with poor quality of life were unemployed.¹⁴

From the results of the study, there were 62 people who did not smoke TB patients (52.66%) while the respondents who smoked were 49 people (44.34%). Of the 49 TB patients who smoked, most of them had a poor quality of life, namely 29 people (59.2%). The analysis showed that there was no relationship between smoking history and quality of life for TB patients.

In the study, 27 respondents had a history of hypertension. From the analysis, it was found that 65 respondents who had a poor quality of life, and most of them did not have a history of hypertension, namely 52 people (61.9%). Of the 111 TB patients, most of them did not have a history of DM, 17 people (15.3%). Of the 65 respondents who had a poor quality of life, the largest group of respondents did not have a history of DM as many as 58 people (61.7%) compared to only 7 people (41.2%). From the analysis, there was no relationship between history of DM and quality of life.

Based on the results of research on tuberculosis patients, it was found that out of 111 respondents there were 55 people who lived with family support who had a good quality of life as many as 32 people (58.2%) while only 23 people had a poor quality of life

(41.8%). Meanwhile, there were 56 people with tuberculosis who did not receive family support and 42 people (75.0%) of them had a poor quality of life. The results of the *Chi-Square* test showed a significant relationship between quality of life and family support received by tuberculosis sufferers. p value = 0.000 ($p < 0.05$).

In this study, it was found that 111 respondents, there were 42 people who lived with the support of friends and had a good quality of life as many as 27 people (64.3%) while only 15 people had a poor quality of life (35.7%). On the other hand, 19 people with tuberculosis who did not receive support from friends had a poor quality of life (27.5%). *Chi-Square* test results showed a significant relationship between quality of life and peer support received by tuberculosis sufferers, p value = 0.000 ($p < 0.05$).

Based on the results of research on tuberculosis patients, it was found that out of 111 respondents, there were 49 people who lived with community support and had a good quality of life as many as 28 people (57.1%) while only 21 people had a poor quality of life (42.9%). On the other hand, 44 people with tuberculosis who did not receive public support had a poor quality of life (71.0%). *Chi-Square* test results showed a significant relationship between quality of life and community support received by tuberculosis patients, p value = 0.003 ($p < 0.05$).

Based on the results of the study on the length of treatment for tuberculosis patients, it was found that from 111 respondents there were 40 people in the advanced phase of treatment and 23 people who had a good quality of life (57.5%) while only 17 people had a poor quality of life (42.5%). Conversely, respondents in the early phase of treatment with poor quality of life were 48 people (67.6%). The results of the *Chi-Square* test showed a significant relationship between length of treatment and quality of life in tuberculosis patients, p value = 0.010 ($p < 0.05$).

Data logistic regression analysis of the relationship between family social support and quality of life of tuberculosis patients shows that tuberculosis patients who receive poor

family support, there is a possibility that 86.18% will have a poor quality of life.

This is in line with the Mass study, in this study the measurements were carried out 2 times, namely at the beginning and after completion of the intensive phase OAT therapy (2 months) with the result that the mean value of the initial therapy was 43.58, an increase of 33.18 points compared to the mean value after 76.76 therapy. These results indicate that in the early phase of treatment the quality of life of TB patients is less good than in the advanced phase.¹¹ Although the Rajeswari study in India in 2005 showed a significant improvement in the health status of pulmonary TB patients (less than 7% stated that at the start of therapy to more than 78% at the end of therapy), there was no change in social status (stigma) when compared between baseline and end of therapy.¹⁵

This is in line with research conducted in a hospital. Lung Salatiga, which involved 90 tuberculosis patient respondents, showed a significant relationship ($p = 0.001$) between family support and quality of life¹⁴. The results of another study conducted by Ayu, showed a significant relationship between family support and self-concept in tuberculosis patients. The family supports the respondent to undergo treatment until he gets better, and the family shows a pleasant face when helping the respondent. Another reason that causes respondents to have good family support is that the family listens to their complaints and the family does not scold when the respondent is bored with treatment.¹⁷

Family plays a very important role in a person's life, especially when the person is sick. Family members are a unit that cannot be separated from each other so that if one family member experiences illness, the other family members will also feel it. The role of the family is very important and is the central role that everyone must learn in order to be played successfully. In the study, it was found that there was a relationship between family support and the quality of life of the elderly. Family has an important role in the concept of healthy illness for elderly family members, where the family is a support system that

provides direct care for family members who are sick so that it has an impact on physical, psychological, social, and environmental which will have an effect on improving the quality of life¹⁸. The role of the family as a motivator, educator, facilitator, Initiator, care-giver, coordinator and mediator is very much needed, especially in providing care, not only physically but psychosocially¹⁹.

Family support is a form of support for other family members who have problems²⁰. There are 4 types of family support, namely informational support by providing an explanation of tuberculosis from the treatment method. Second, there is assessment support by providing support in undergoing treatment, paying attention to always remembering to take medication and including every family event, thirdly there is instrumental support manifested in the form of delivering during control as well as providing cutlery, toiletries and providing infrastructure for the respondent's needs. Finally, there is emotional support manifested by listening to respondents' complaints that are felt in undergoing treatment emotionally to achieve the welfare of family members and meet psychological needs²¹.

Therefore, the researchers concluded that the family as the closest person can provide more social support to tuberculosis sufferers. Patients really need family, friends and the community to play a role in providing advice on infrastructure, medical funds, providing the time and energy and attention needed by tuberculosis sufferers. Positive family support from the smallest to the greatest things will be able to help improve the quality of life of sufferers and ultimately accelerate the healing process for tuberculosis patients.

5. Conclusion

Most of the tuberculosis patients at Puskesmas Kota Palembang were male (54.1%), aged 17-45 years (54.05%), normal body mass index (52.25%), married (76.58%), low education (63.96%), no-working (51.35%), no smoking (52.66%), non-hypertension (75.68%), no history of diabetes (84.7%). early treatment

(63.96%). and earning below the UMR Palembang City (96.40%).

Most of the tuberculosis patients at the Puskesmas Palembang did not get support from their families, 50.5%. while the percentage of peer support was 62.2% and community support was 55.9%.

The percentage of good quality of life of tuberculosis patients at Palembang City Health Center is 71.17% and the poor one is 28.83%.

There is no significant relationship between demographic characteristics (age, sex, body

mass index, education level, employment status, and marital status), blood pressure, history of diabetes, and history of smoking with quality of life. There was a significant relationship between length of treatment, family support, friend support, and community support with the quality of life of tuberculosis patients (p value <0.05).

Tuberculosis sufferers with poor family support have the opportunity to have a poor quality of life by 86.18% in this study.

6. Suggestions

Comparative research can be carried out regarding the quality of life in TB sufferers by using other questionnaires.

All parties should play an active role in overcoming problems regarding the quality of life in TB sufferers. Cooperation with all related parties. such as family, the surrounding environment, and the hospital must be carried out properly to overcome this problem.

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