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RESEARCH

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The Impact of Stigma on Medication Compliance for Tuberculosis Patients at the Health Center in Bandar Lampung City

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Abstract

Tuberculosis, a lethal infectious illness, is known as the ninth leading cause of mortality worldwide. Self-stigma might emerge from the social stigma that Tuberculosis patients experience in their social environment. Stigma is triggered by five factors: self-isolation, supportive views, discrimination experiences, social withdrawal, and stigma resistance. The purpose of this study was to see how Tuberculosis stigma affected medication adherence at Bandar Lampung City Health Center. This study is a quantitative study employing a case-control technique. The simple random sampling technique was utilized with a total sampling of up to 54 respondents who fulfilled the inclusion criteria. Data collection through the completion of the questionnaire. A bivariate chi-square test and a multivariate logical regression test were utilized to analyze the data. The findings indicated age, sex, marital status, education, occupation, self-isolation, views of support, experience of discrimination, social withdrawal, and rejection Stigma: p-value of self-isolation = 0.000, views of support = 0.000, experience of discrimination = 0.007, social withdrawal = 0.001, resistance to stigma = 0.000. The value of the logistic regression equation is $Y = a + b_1 X + b_2 X + b_3 X$. This study concludes that stigma resistance is the most influential factor impacting medication adherence. This study suggests that tuberculosis sufferers do not withdraw, may contribute to society, socialize more, get along conveniently, and overcome stigma by thinking positively.

Keywords: Tuberculosis, Stigma, Compliance with Medication.

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1. INTRODUCTION

Tuberculosis is an infectious disease of the respiratory tract which is still a problem for people in the world. Based on data collected by the World Health Organization (WHO) in 2015, it was noted that there were 10.4 million cases of tuberculosis worldwide, with details of 5.9 million cases in men, 3.5 million cases in women, and 1 million cases in children (WHO 2016). Tuberculosis is the ninth leading cause of death worldwide and is the leading cause of deadly infectious disease.

In 2016 it is estimated that 10.4 million people suffer from tuberculosis, consisting of 90%, namely adults, 65%, and men 10%, people with HIV. Most of the estimated number of cases in 2016 occurred in the Southeast Asia Region (45%), the African Region (25%), and the Western Pacific Region (17%), and a smaller proportion of cases occurred in the Eastern Mediterranean Region (7%), European Region (3%) and American Region (3%). The top five countries, with 56% of estimated cases are India, Indonesia, China, Philippines, and Pakistan (in descending order) (WHO, 2016).

The prevalence of the Indonesian population diagnosed with tuberculosis by health workers according to the Basic Health Research Results (Riskesdas) of the Indonesian Ministry of Health in 2018 is 0.4 percent. The five provinces with the highest incidence of tuberculosis were West Java (0.7%), Papua (0.6%), DKI Jakarta (0.6%), Gorontalo (0.5%), Banten (0.4%), and West Papua (0.4%) (Kementerian Kesehatan Republik Indonesia, 2019).

According to the health profile of Lampung province in 2018, which was sourced from data from the Lampung provincial health office. Until the end of December 2018, the performance of TB disease control was monitored at any time by measuring the output of activities in the form of a case detection rate (CDR) for pulmonary Tuberculosis, and CDR for pulmonary Tuberculosis. Bandar Lampung City as much as 59.10% of the estimated cases or Case Notification Rate (CNR) in 2018 the national target was 70% (Dinas Kesehatan Provinsi Lampung, 2015). The success rate of treatment in Lampung Province in 2019 has reached the target of 92.6%. Based on data from the Lampung provincial health office in 2018, the city of Bandar Lampung ranks second highest with 1,871 cases and the one that ranks first is Central Lampung, while the smallest Tuberculosis cases handled are West Lampung district (Dinas Kesehatan Kota Bandar Lampung, 2014). Based on a survey from the Bandar Lampung City Health Office in 2014, tuberculosis cases decreased by 1.4% from the number of tuberculosis cases in 2013 (Dinas Kesehatan Kota Bandar Lampung, 2014).

The findings of smear (+) pulmonary tuberculosis were evenly distributed in all health centers and the highest were found in Long-hospitalized health centers with 108 cases. Tuberculosis case data of all types according to a 2016 survey by the Bandar Lampung City Health Office, the largest prevalence was in Long-hospital health centers, with 189 cases. The latest data on Tuberculosis cases for the 1st and 2nd quarter of 2019 by the Bandar Lampung City Health Office, it was recorded that the most tuberculosis cases that experienced drug resistance were at Long Inpatient Health Center with 80 patients, while the second largest was in Sukaraja Health Center and Satellite with the number of sufferers respectively 65 and 60 patients. In that situation, it is necessary to control tuberculosis, Directly Observed Treatment Shortcourse (DOTS) is a strategy recommended by WHO globally to prevent and eradicate pulmonary tuberculosis, because the cure rate reaches 95% (Dinas Kesehatan Kota Bandar Lampung, 2014), (Kipp, et al., 2015).

Based on Permenkes No. 67 of 2016 concerning Tuberculosis control, one of the principles of Tuberculosis treatment is that drugs are taken regularly which is supervised by the Drug Ingestion Supervisor (PMO) until the completion of treatment (Kementerian Kesehatan Republik Indonesia, 2016). Tuberculosis treatment aims to cure patients, prevent death, prevent re-emergence, break the chain of transmission, and prevent bacterial resistance to anti-tuberculosis drugs (Kipp, et al., 2015).

Tuberculosis is also a disease that triggers stigma. The stigma experienced by Tuberculosis patients does not only come from family and society (social stigma) but can also come from Tuberculosis sufferers themselves which is commonly called self-stigma (self-stigma/internalized stigma). Self-stigma will arise because of the social stigma that Tuberculosis sufferers get from their environment (Arininta, 2019), (Hammarlund, et al., 2018), (Oladimeji, et al., (2018)). The social stigma commonly found in Tuberculosis sufferers includes that Tuberculosis disease is related to the presence of HIV infection, that the patient does something immoral, is an infectious disease that can be transmitted through the use of the same eating utensils, smoking, and due to middle to lower economic factors. Self-stigma can appear starting with the social stigma that TB patients get from their social environment (Arininta, 2019).

The emergence of stigma is caused by a lack of knowledge about Tuberculosis disease, and the existence of myths/assumptions that are not true in society. The results showed that self-stigma was still experienced by Tuberculosis clients who took medication at Malingping Public Health Center with a mild stigma category (Sari, 2018). This research is in line with the research of Stigma results in a decreased quality of life for Tuberculosis patients and patients experiencing mild depression (Lee, et al., 2017).

The study conducted by Ritscher, (2003); Riyanto, (2011) about self-stigma can be measured by a questionnaire developed by Endria, (2019), two researchers to be adopted, modified from the internalized stigma or self-stigma instrument for ritsher's mental disorder. The questionnaire instrument was evaluated for its reliability and validity, and the results categorized self-stigma into five instruments such as self-isolation, support for beliefs, discrimination experiences, social withdrawal, and resistance to stigma. The questionnaire was designed to assess the self-stigma of mental patients, but the questionnaire could also be modified to examine other illnesses that are not related to mental illness, but are still related to assessing self-stigma (Ritscher, 2003), (Watson, et al., 2007). The researchers used an instrument in the form of questionnaire developed by the researchers by soliciting opinions and input from 3 experts (Medical Surgery, Psychiatry, and Management) in the study that they also conducted to measure the impact of stigma on tuberculosis patients (Ritscher, 2003); (Iribarren, 2020).

Multiple factors, including late access to health care premature treatment discontinuation, can contribute to a surge in the number of Tuberculosis cases. One of the reasons underlying delays in seeking treatment and premature discontinuation of treatment is the stigma from society associated with Tuberculosis sufferers (Kipp, et al., 2015). As a result, Tuberculosis patients experience guilt, uncertainty, and an inferiority complex. According to the findings of a study conducted by researchers in collaboration with the individual in charge of the Tuberculosis program at the Health Center, there are still some patients who are ashamed of having Tuberculosis disease. Besides, there are still residents who choose to transfer their medical treatment to another Medical Center.

Efforts should be made to discover the feelings felt and experienced by Tuberculosis sufferers so that the patient's feelings might improve in a positive direction for the suffering. With the patient's state, the tuberculosis eradication effort will fail since the patient is too humiliated to seek treatment and will stop taking medication. As a result, Tuberculosis cannot be eliminated. The goal of this study was to see how Tuberculosis stigma affected medication adherence at the Bandar Lampung City Health Center.

2. RESEARCH METHOD

The case-control method was used in this quantitative study. The case-control design was employed in this study to assess the effect of stigma on medication adherence in tuberculosis (TB) patients. All tuberculosis patients treated at the Panjang Sukaraja and Satellite Health Centers in Bandar Lampung City were included in this study. The simple random sampling technique was applied, with a total sampling of up to 54 respondents who fulfilled the inclusion criteria: tuberculosis patients, Bandar Lampung residents, aged > 17 years, had a minimum education of junior high school, were willing to be respondents, and the exclusions of this study were not psychologically disturbed; answers were not influenced by neighbors.

The study was conducted at the Panjang Sukaraja and Satellite Health Centers in Bandar Lampung. Data was obtained by filling out a questionnaire during the research period, which lasted from June to December 2021. A bivariate chi-square test was employed for data analysis, and a logistic regression test was performed for multivariate analysis. Ethical Clearance No. 614/EC/KEP-UNMAL/XI/2021.

3. RESULTS AND DISCUSSION

Table 1. Frequency Distribution of Patient Characteristics at the Bandar Lampung City Health Center (n=54).

Variable	Category	Total	%
Age	Children <11	4	7.4
	Teenagers 12-25	9	16.7
	Adults 26-45	19	35.2
	Elderly > 46	22	40.7
Gender	Male	29	53.7
	Women	25	46.3
Marital status	Marry	36	66.7
	Single	18	33.3
Education	SD and Not School	21	38.9
	Junior High	16	29.6
	High school	15	27.8
	Diploma and Undergraduate	2	3.7
Occupation	Student	10	18.5
	TNI / POLRI and PNS	1	1.9
	Private employees	5	9.3
	entrepreneur	14	25.9
	Others	24	44.4
Isolated	Isolated	26	48.1
	Not Alienated	28	51.9
Support View	Negative Views	28	51.9
	Positive Outlook	26	48.1
Experience of Discrimination	Discriminated	16	29.6
	Not Discriminated	38	70.4
Social Withdrawal	Withdraw	25	46.3
	Not Withdrawing	29	53.7
Stigma Resistance	Not Against Stigma	21	38.9
	Against Stigma	33	61.1
Medication	Not obey	27	50

Compliance	Obey	27	50
	Total	54	

Table 1 shows that the age group of respondents aged <11 years is 4 people (7.4%), 9 people 12-25 years old (16.7%), 19 adults 26-45 years (35.2%), and the elderly > 46 years 22 people (40.7%). Most of the ages were elderly > 46 years, 22 people (40.7%) and the lowest were children aged <11 years as many as 4 people (7.4%). The frequency distribution of the characteristics of health center respondents based on gender was male as many as 29 people (53.7%) and 25 women (46.3%). The frequency distribution of health center characteristics based on the marital status of married respondents was 36 people (66.7%) and 18 people (33.3%) were unmarried. The frequency distribution of the characteristics of health center respondents based on primary and non-school education was 21 people (38.9%), 16 junior high school students (29.6%), 15 high school students (27.8%), and Diploma and Tier 1 2 people (3.7%). The highest educational status was Not yet School and SD 21 people (38.9%) and the lowest was Diploma and Undergraduate as many as 2 people (3.7%). Frequency distribution of the characteristics of health center respondents based on the occupation of 54 respondents, student respondents as many as 10 people (18.5%), TNI / POLRI and 1 civil servant (1.9%), private employees 5 people (9.3%), 14 entrepreneurs (25.9%), and Others 24 people (44.4%). Most occupations are Others as many as 24 people (44.4%) and the lowest is TNI / POLRI and PNS as many as 1 person (1.9%).

The frequency distribution of the characteristics of the health center respondents was based on self-isolation from 54 respondents, the most respondents were not isolated as many as 28 people (83.0%), and isolated respondents were 26 people (48.1%). The frequency distribution of the characteristics of the health center respondents was based on the support of the views of 54 respondents, 28 respondents (51.9%) with negative views, and 26 respondents (80.8%). The frequency distribution of the characteristics of health center respondents is based on the experience of discrimination from 54 respondents, 38 people (70.4%) are not discriminated, and 16 people are not discriminated against (29.6%). The frequency distribution of health center respondent characteristics is based on social withdrawal from 54 respondents, 29 people (53.7%) did not withdraw, while 25 people (46.3%) withdrew. The frequency distribution of the characteristics of health center respondents based on Stigma Resistance from 54 respondents, Against Stigma as many as 33 people (85.3%), it is different for respondents Not Against Stigma as many as 21 people (38.9%). The frequency distribution of the characteristics of health center respondents was based on adherence to taking medication from 54 respondents, 27 respondents (50%) did not comply with medicine, and 27 respondents (50%) did not comply with medicine.

Table 2. The Relationship between Self-isolation Against, Support Views, Discrimination Experience, and Compliance with drinking Drugs for TB Patients at the Bandar Lampung City Health Center.

Self-isolation	Medication Compliance				Total	%	p- value	OR (95% CI)
	Case		Control					
	n	%	n	%				
Isolated	21	80.8	5	21.4	26	48.1	0.00 (4,077-58,166)	
Not Alienated	6	19.2	22	78.6	28	51.9		
Total	27	100	27	100	54	100		
View Support	Medication Compliance				Total %	p-value	OR (95% CI)	
	Case	Control						

	n	%	n	%	Total	%	p-value	OR (95% CI)
Negative Views	22	78.6	6	22.2	28	51.9	0.00	15,400 (4,077-58,166)
Positive Outlook	5	19.2	21	77.7	26	48.1		
Total	27	50	27	50	54	100		

Experience of discrimination	Medication Compliance				Total	%	p-value	OR (95% CI)
	Case		Control					
	n	%	n	%				
Discriminated	13	48.1	3	11.1	16	29.6	0.007	7,429 (1,799-30,668)
Not Discriminated	14	51.8	24	88.9	38	70.4		
Total	27	50	27	50	54	100		

Table 2 show that the respondents in most cases were Outcasts, with as many as 21 persons (80.8%), while respondents who were not isolated were 6 people (19.2%). Statistically, the study's findings obtained a p-value = 0.00, which is less than the 5% (0.05) significance level, indicating that there is a significant association between isolation and medication adherence. According to the results of the foregoing study, the OR value is 15,400, indicating that respondents who are isolated are at 15.4 times the risk of respondents who are not isolated.

Table 2 show that the respondents with the most unfavorable views were 22 people (78.6%), while the respondents with the most positive views were 5 people (19.2%). Statistically, the study's results obtained a P-value = 0.00, which is less than the 5% (0.05) significance level, indicating that there is a meaningful association between view support and medicine adherence. The analysis above shows that the OR value = 15,400 which indicates that respondents who have a negative view are 15.4 times riskier than respondents who have a positive view.

Table 2 show that the the respondents in the most cases found were not discriminated against, as many as 14 people (36.8%) while the majority of respondents who were discriminated against were not obedient to taking medicine as many as 13 people (81.2%). Statistically, the results of the study obtained a P-value = 0.007 which is less than the significance value of 5% (0.05), shows that there is a significant relationship between not being discriminated against and adherence to taking medication. The analysis above shows that the OR value = 7,429, which shows that respondents with discrimination have a risk of 7,429 times the risk compared to not being discriminated against.

Table 3. The Relationship between Withdrawal, Stigma Resistance, and Compliance with drinking Drugs for TB Patients at the Bandar Lampung City Health Center.

Withdrawal	Medication Compliance				Total	%	p-value	OR (95% CI)
	Case		Control					
	n	%	n	%				
Withdraw	19	70.4	6	22.2	25	46.3	0.001	8,312 (2,437-28,354)
Not Withdrawing	8	29.6	21	77.7	29	53.7		
Total	27	50	27	50	54	100		

Stigma Resistance	Medication Compliance				Total	%	p-value	OR (95% CI)
	Case		Control					
	n	%	n	%				
Not Against Stigma	18	66.6	3	11.1	21	38.9	0.00	16,000 (3,781-67,700)
Against Stigma	9	33.34	24	88.8	33	61.1		
Total	27	50	27	50	54	100		

Table 3 show that the highest number of respondents were withdrawn as many as 19 people (70.4%) while the respondents in cases who did not withdraw socially were as many as 8 people (29.6%). Statistically, the results of the study showed that the p-value = 0.001 which is less than the significance value of 5% (0.05), this shows that there is a significant relationship between social withdrawal and adherence to taking medication. The analysis above shows that OR = 8.312, which indicates that respondents who withdraw socially are at 8,312 times the risk than respondents who do not withdraw socially.

Table 3 show that 18 people (66.6%) were found the most were Not Against Stigma, while 9 respondents in the Against Stigma case (33.4%). Statistically, the results of the study obtained a p-value = 0.00 which is less than the significance value of 5% (0.05), this shows that there is a significant relationship between stigma resistance and medication adherence. The above analysis shows that OR = 16,000, which indicates that respondents who do not fight stigma have a risk of 16,000 times compared to respondents who are against stigma.

Table 4. Multivariate Stigma Test Results for Tuberculosis Patients Associated with Compliance with Medication at the Bandar Lampung City Health Center

Variable	B	SE	P-Value	OR	95% CI For Exp (B)	
					Lower	Upper
Isolation	2,409	1,153	0.037	11,128	1,161	106.62
Support View	3,149	1,268	0.013	23,314	1,945	279.42
Experience of discrimination	2,890	1,401	0.039	17,989	1,155	208.27
Social Withdrawal	2,325	1,116	0.037	10,226	1,148	91,078
Stigma Resistance	3,311	1,665	0.047	27,424	1,050	716.17
Constant	-9,030	3,239	0.005	0,000		

Table 4 show that the results of the logistic regression test shown above, it can be seen that all variables have a p-value <0.05. The stigma resistance variable has a p-value (0.047) with a greater OR = 27,424 value than the other variables with a confidence level between 1,050 - 716.17. Based on the explanation above, it can be concluded with 95% confidence that we believe that stigma resistance is the dominant variable on medication adherence compared to the variables of self-isolation, shamanism, the experience of discrimination, and social withdrawal.

DISCUSSION

There was a significant relationship between self-isolation status and medication adherence. The results of the analysis obtained p-value = 0.00 with an OR value = 15.400 and a-confidence between 4.077 - 58.166. This research is in line with the results of a study conducted in Malingping, Banten Province, it was found that the results of the analysis showed that 62.09% of the respondents experienced self-isolation in the form of feelings of shame, insecurity, feeling shunned, and feeling not understood by others (Septia, Rahmalia, & Sabrian, 2014).

Self-isolation is a stigma that inhibits healing by eroding one's social status, social networks, and self-confidence, all of which worsen outcomes, including unemployment, isolation, late seeking therapy, symptoms resistant to treatment, prolonging the course of illness, and avoiding hospitalization (Riyanto, 2011). Self-isolation, even if allowed by the patient's family, does not receive proper care and treatment. Patients with mental disorders in rehabilitation who are cared for by their own families at home or outpatients need support to adhere to the treatment program. To create a cure for the patient itself (Osamor, & Owumi,

2011). The description above proves that if a patient is not isolated, he/she will regularly take medication, which is directly proportional to those who are isolated, so they tend not to regularly take medication. According to researchers, the majority of isolated Tuberculosis sufferers do not obey to take medication, this is because program holders at the health center are less intensive in taking the ball to the sufferers so that they can put themselves in their environment without them feeling embarrassed, disappointed, feeling low compared to people who don't get this disease. This research is in line with a study conducted by Malingping Province which showed that most patients who experience isolation show shame, feel inferior, and feel shunned and not understood by others (Sari, 2018). Self-isolation if left alone by the family does not receive treatment and treatment should have an impact on the patient's recovery due to drug withdrawal (Kwaghe, et al., 2021), (Freeman, 2020).

There is a significant relationship between view support and adherence to taking medication with the analysis results obtained by p -value = 0.00 with an OR = 15.400 and a-trust between 4.077 - 58.166. The positive form of support from families who seek and remind sufferers to regularly take the medication to minimize boredom or non-compliance with taking the medication regularly because the side effects of drugs felt by patients are disturbing, and lack of initiative to take patient medication, as well as bad emotions from sufferers. This effort is carried out by one of the families persuading the sufferer, and giving understanding or advice to the sufferer so that the behavior of a family can be classified as a form of informative family support. This type of family support is intended so that this information can be used to solve personal problems and other problems. This information includes providing advice, direction, suggestions, and information needed (Moya & Lusk, 2013).

In a study by Pare, Amiruddin, & Leida, (2012), Herawati, Abdurakhman, & Rundamintasih, (2020), conducted a study on the effect of family support on adherence to taking anti-tuberculosis drugs, involving 76 male subjects and 60 female subjects with pulmonary tuberculosis, ranging in age from 21 to 70 years. The results of this study indicate that the greatest influence on increasing adherence to taking anti-tuberculosis drugs in pulmonary tuberculosis patients is attention to the progress of treatment, followed by transportation assistance, encouragement of treatment and not avoiding the family of tuberculosis sufferer. Arafa, (2022) research leads to the behavior of compliance with taking medication in schizophrenia sufferers, namely the existence of family support provided to sufferers in terms of treatment. The support mentioned above such as delivering control, giving medication, and emotional support such as not tiring to care for the patient so as not to avoid the sufferer because there will be positive attitudes or feelings towards the sufferer (Minarni, et al., 2015)

In the absence of family support, Tuberculosis sufferers tend to think negatively which will reduce their self-confidence in their recovery. The description above proves that if there is a negative viewpoint, it will allow non-adherence to taking medication, and is directly proportional to adherence to taking medication if a Tuberculosis patient has a positive view. Above has been explained, researchers argue that the majority of Tuberculosis sufferers who have a negative view do not comply with taking medication, this is because Tuberculosis patients in their environment cannot live well, cannot make decisions well, and cannot contribute to society such as participating in recitation, social gathering, and monthly RT gatherings because they are shunned in society.

There was a significant relationship between diet and the incidence of RA. The results of the analysis showed that p -value = 0.007 with an OR value = 7,429 and a confidence between 1,799 and 30,668. Status The results of this study are in line with Sari Y's research in 2018 in the Malingping Health Center area regarding the experience of discrimination experienced by 36.29% of respondents, in the form of neglect and unwillingness to interact with Tuberculosis clients. Tuberculosis sufferers choose to stay away and be alone.

Health status is the result of the interaction of various factors, both internal (internal) and external (external). This internal factor consists of individual physical and psychological factors. Meanwhile, external factors include socio-economic, socio-cultural, environmental, political, educational, and so on. Lawrance Green analyzes human behavior from a health level. One of the factors that still influence a person's behavior in undergoing treatment is discrimination received by patients.

Research conducted by Pare, Amiruddin, & Leida, (2012), respondents received more acts of good discrimination by 44 people (59.5%) compared to less good discrimination, namely 30 people (40.5%). Several researchers found that the socio-cultural factor of society, which they call social discrimination, is a very determining factor, namely from the aspect of treatment compliance with the result that the cure rate for Tuberculosis treatment is still low. Patients who do not regularly seek treatment are more likely to be discriminated against by the community as many as 13 people (59.1%). Patients who regularly seek treatment are found to be not discriminated against as many as 35 people (67.3%) and in the less discriminated category are 17 people (32.7%). The result of cross-tabulation of the discrimination variable with pulmonary Tuberculosis patient behavior obtained OR = 2.974, which means that pulmonary Tuberculosis patients who have discrimination are less at risk of getting treatment regularly compared to pulmonary tuberculosis patients who have good discrimination. If seen from the upper and lower limit values (95% CI 1.063 - 8.318), then discrimination is statistically significant.

The success of Tuberculosis treatment does not only depend on medical aspects. But also on the social aspect which plays a role in patient motivation to undergo regular treatment. In society, there is still a view that TB disease is a hereditary disease and is difficult to treat, so pulmonary TB sufferers often receive discriminatory treatment such as being avoided or shunned.

Research conducted by Directorate General of Disease Control and Environmental Health, Ministry of Health of the Republic of Indonesia, (2014), in Tangerang District found that public knowledge about pulmonary tuberculosis was not good enough and the attitude of society towards sufferers was also lacking (Direktorat Jenderal Pengendalian Penyakit dan Penyehatan Lingkungan, Kementerian Kesehatan Republik Indonesia, 2014). There is still discrimination in the community regarding pulmonary tuberculosis which says that pulmonary tuberculosis is an infectious disease and witchcraft, so they choose not to hang out with or be close to people who suffer from pulmonary tuberculosis (Dinas Kesehatan Kota Bandar Lampung, 2014).

Various acts of discrimination are accepted by Pulmonary TB patients. Most of the pulmonary TB patients received discrimination from their neighbors in the form of being avoided and not spoken to because they were afraid that the disease would move away and had been viewed cynically by their neighbors. So counseling about Pulmonary TB to the public needs to be done so that people can understand how to behave towards pulmonary TB patients in their environment.

Based on the description above, it proves that the more discriminated a person is, it triggers a decrease in medication adherence, and the more that person is not discriminated against, the more obedient the person is taking medication. According to the description above researchers argue that the majority of discriminated TB sufferers do not comply with taking medication, this is because TB sufferers are physically weak, they are insecure, they also do not dare to hang out with their friends in the neighborhood where they live, because many people in their environment think TB disease harmless and incurable and contagious. So they

are discriminated against in their environment because the environment tends not to embrace the TB sufferer.

There is a significant relationship between social withdrawal and adherence to taking medication, with the results of the analysis obtained p -value = 0.001 with an OR = 8.312 value and a trust between 2.437 - 28.354.

The research result is in line with research undertaken by [Saraswati, Hasanah, & Al Ummah., \(2016\)](#) in Kebumen where feelings of inferiority or low self-esteem are also experienced by patients with TB as one of the forms of stigma feelings of self-owned. This is consistent with the results of research done by Saraswati, Hasanah, and Al Ummah that as many as 51.6% of respondents in the study experienced self-less, as indicated by the lack of confidence when interacting with other people to avoid contact with the eyes while talking and looked down as there are physical changes experienced by the sufferer, a sense of alienation, disrespect, and feeling of no use to others.

The results of quantitative and qualitative research conducted by [Moya, & Lusk, \(2013\)](#) in Mexico state that the majority of TB clients feel that they feel shunned, discriminated against, useless, sad, depressed, angry, afraid of transmission, and lose their jobs.

The description above proves that the cause of this problem is the withdrawal by a person who tends to not be adherent to taking medication, and is directly proportional to patients who do not withdraw socially, they tend to comply with taking medication.

Researchers argue that the majority of TB sufferers withdraw socially and do not comply with taking medication, this is because family members tend to be apathetic towards them, their families tend not to pay attention to the sufferer, and do not remind them to continue taking medication. This is also inseparable from the lack of community health center cadres who are enthusiastic about providing education to their families, according to cadres in the field, TB sufferers are more clumsy, avoid being close to other people, feel strange, and feel a burden to others.

There is a significant relationship between stigma resistance and medication adherence, with the results of the analysis obtained p -value = 0.00 with an OR = 16,000 and confidence between 3,781 and 67,700.

The results of the above research are in line with the research by [Prasetyo, & Gunawijaya, \(2017\)](#) entitled The Benefits of Support Groups for People with Schizophrenia to Improve Self-control: A Case Study in the Indonesian schizophrenia care community (KPSI) Jakarta states that social stigma has a strong influence on ODS (people with schizophrenia) in fostering fear and anger, thus causing ODS to tend to shut down because they don't want their identity to be known. One of the ways that ODS can fight against social stigma is done by admitting that they have *Schizophrenia* disorder and making themselves a tool to educate the public through direct testimony in public. This open attitude has been effective in opening up the public's perspective on ODS and has turned to making ODS a party to consult on similar problems faced.

The strong motivation to want to heal triggers Stigma resistance as research conducted by [Unalan, et al., \(2008\)](#), states that adequate self-defense is shown by the feeling and self-confidence to be able to face various situations that result from the disease, which in this case is self-stigma caused by TB. This is because fewer respondents underwent treatment > 3 months than respondents who were in the intensive treatment phase (<3 months). Respondents with a treatment period of > 3 months can feel positive feelings and develop a belief in themselves that they can still contribute to their environment during illness, can still complete work well, and feel comfortable being close to other people. This is followed by the research that TB patients who have undergone a long treatment will experience a decrease in the negative impact of their TB disease, both physically and psychologically. and when a person has a high motivation to seek treatment and is optimistic that he will recover.

The description above proves that stigma resistance has an effect on medication adherence, and is directly proportional to respondents who do not fight stigma tend to not adhere to taking medication. Researchers argue that the majority of TB sufferers who do not fight stigma do not adhere to taking medication, this is because they feel they are not strong fighters, they are also burdened to help their family's economy because they feel physically weak and feel they must be cared for. Family members of TB sufferers do not help all the sufferers' needs, for the patients, wherever they go, continue to take medication regularly. Following the study done by [Unalan, et al's research \(2008\)](#) motivation to recover is adequate self-defense shown by feelings and self-confidence to be able to deal with various situations that are a result of the disease, [Prasetyo, and Gunawijaya's research \(2017\)](#) one way to fight Stigma is by admit themselves with direct testimony to the public and an open attitude. As well as research by [Minarni, & Sudagijono, \(2015\)](#). Saying support for those closest to you, starting from taking medication, reminding you to take medicine, and emotional support for tuberculosis sufferers will lead to positive attitudes and feelings towards sufferers.

The stigma resistance variable has a value of OR = 27,424 compared to self-isolation, a value of OR = 11,128, support for the viewpoint of OR = 23,314, the experience of discrimination, a value of OR = 17,989, and social withdrawal, the value of OR = 10,226, so that stigma resistance is the most dominant variable on medication adherence.

The results of this study are in line with research conducted by the research conducted by [\(Courtwright, & Turner, 2010\)](#), which states that the stigma of tuberculosis can cause treatment delays and harm treatment continuity in TB clients. This stigma is also often attached to health problems, including tuberculosis. The reasons why TB stigma appears to include its transmission, inaccurate knowledge of its causes, its treatment or contact with marginalized groups such as poverty, racial minorities, sex workers, prison prisoners, and people infected with HIV / AIDS, [\(Pare, Amiruddin, & Leida, 2012\)](#)

Research conducted by [\(Mathew, & Takalkar, 2007\)](#), in Indian society, found that TB patients in India often experience rejection and social isolation from society. Therefore, myths and stigma must be dispelled to control Tuberculosis. The problem of TB disease morbidity and mortality and the low coverage rate of TB patient detection is a complex health problem that is also influenced by many factors, which include internal and external factors. Internal factors play an important role in determining the health of individuals and groups, namely the behavior of the sufferer itself. TB patients also feel inferior to their environment and workplace.

Some tuberculosis sufferers frequently assert that they are discriminated against by society. This is due to people's fear of grasping the sickness. Patients determine whether or not other individuals will avoid them, and certain patients may avoid socializing in society. The strong stigma demonstrated by stigma resistance also reflects a high expectation of the treatment process, implying that stigma reduction programs should strive to convert stigma into support for them.

Stigma is a social interaction between individuals who are and are not stigmatized. Stigma develops as a consequence of experiencing prejudice from others, as well as feelings of humiliation that develop within the patient. Support for these patients is critical for diminishing self-stigma and its consequences. Some tuberculosis patients frequently report community discrimination. This is due to people's continued fear of engaging in the sickness. Patients estimate if others would avoid them, or whether certain patients will escape society by rarely mingling in society. Fighting Stigma demonstrates high expectations for the treatment process and demonstrates that Stigma Resistance programs should strive to change stigma into support for them.

From the parts contained in the instrument, it was found that almost all respondents (85%) had low stigma measurements. This is in line with the results of the study which showed that almost all respondents with low stigma resistance tended to disobey medication which was directly proportional to their adherence. In addition to its impact on the treatment process, stigma can cause patients to feel inferior (Somma, et al., 2008).

The results of research conducted by Moya, & Lusk, (2013), state that stigma can cause psychological stress, depression, fear, problems in marriage, problems at work and exacerbate disease conditions. In the community, these impacts may not have much effect. However, tuberculosis patients can feel inferior and feel they have no friends. Some patients who visit the Pulmonary Health Center often do not say that they have tuberculosis because they are afraid and ashamed and are shunned by their friends.

Researchers argue that stigma resistance plays a very important role by influencing patients to take medication regularly and when sufferers fight stigma, the person tends to obey the medication. But if the person does not fight the stigma, then they are less likely to adhere to taking medication, therefore if the patient feels positive, he will be more obedient and enthusiastic in his treatment. This study is in line with research conducted by Courtwright and Turner (2010) that tuberculosis stigma can cause delays in treatment and endanger the continuity of treatment in TB clients. Likewise, research conducted by (Mathew, & Takalkar, 2007) in Indian society found that TB patients in India often experience resistance and social isolation from society.

This study has multiple limitations and weaknesses, including: (1). The study was carried out at three health centers, namely Health Center Panjang, Health Center Sukaraja, and Health Center Satelit, which varied in regional, occupational, and socioeconomic characteristics. This study employed a case-control design, in which participants were chosen once the disease was already in progress (retrospective), allowing for bias and making confounding factors harder to discover. The researcher merely looks at the variables Self-isolation, View Support, Discrimination Experience, Relationship with Social Withdrawal, and Stigma Resistance, despite there are many more variables that have yet to be examined and compared. (2). This study also reveals that there are child responders who filled out the questionnaire based on the opinions of their parents, indicating that it needs to be evaluated again for accuracy. This study also demonstrates that TB patients' emotions differ from what their relatives experience, indicating the need for questions that contrast what family members perceive and patients' thoughts so that the data is consistent.

4. CONCLUSION

The conclusion is that stigma towards people with tuberculosis could result in treatment delays, which may endanger the patient by exacerbating the condition. This stigma arises from an absence of community awareness about how tuberculosis is transmitted, how to treat it, and how to prevent it. Both the manner of transmission of tuberculosis infection, as well as fear, are frequently linked to medical issues. The genesis of the TB stigma is due to the fact that tuberculosis is closely associated with marginalized groups such as the poor, racial minorities, sex workers, smokers, and persons infected with HIV/AIDS. According to the findings of this study, there is a substantial association between stigma and treatment experience, self-isolation, family support, and resistance to adherence to treatment.

REFERENCES

- Arininta, N. (2019). Effects of Social and Self Stigma on Adolescent Tuberculosis Patients. *Review of Primary Care Practice and Education (Kajian Praktik dan Pendidikan Layanan Primer)*, 2(1), 43-45. <https://doi.org/10.22146/rpcpe.44474>
- Arafa, Y. G. (2022). Relationship of Nurse's Knowledge About Schizophrenia With The Care

- Of Schizophrenia Patients In The Regional General Services Agency of Aceh Mental Hospital Banda Aceh. *Journal of Midwifery and Nursing*, 4(1), 7-12. <https://doi.org/10.35335/jmn.v4i1.1712>
- Courtwright, A., & Turner, A. N. (2010). Tuberculosis and stigmatization: pathways and interventions. *Public health reports*, 125(4_suppl), 34-42. <https://doi.org/10.1177/00333549101250S407>
- Dinas Kesehatan Kota Bandar Lampung. (2014). *Profil Kesehatan Kota Bandar Lampung Tahun 2014*. Dinas Kesehatan Kota Bandar Lampung.
- Dinas Kesehatan Provinsi Lampung. (2015). *Profil kesehatan Provinsi Lampung tahun 2015*. Dinas Kesehatan Provinsi Lampung.
- Direktorat Jenderal Pengendalian Penyakit dan Penyehatan Lingkungan, Kementerian Kesehatan Republik Indonesia. (2014). *Pedoman Nasional Pengendalian Tuberkulosis*. Direktorat Jenderal Pengendalian Penyakit dan Penyehatan Lingkungan, Kementerian Kesehatan Republik Indonesia.
- Endria, V. (2019). Depresi Dan Stigma Tb Dengan Kualitas Hidup Pasien Tuberkulosis Paru. *Jurnal Riset Kesehatan Nasional*, 3(1), 21-28. <https://doi.org/10.37294/jrkn.v3i1.151>
- Freeman, J., Gorst, T., Gunn, H., & Robens, S. (2020). "A non-person to the rest of the world": experiences of social isolation amongst severely impaired people with multiple sclerosis. *Disability and rehabilitation*, 42(16), 2295-2303. <https://doi.org/10.1080/09638288.2018.1557267>
- Hammarlund, R., Crapanzano, K. A., Luce, L., Mulligan, L., & Ward, K. M. (2018). Review of the effects of self-stigma and perceived social stigma on the treatment-seeking decisions of individuals with drug-and alcohol-use disorders. *Substance abuse and rehabilitation*, 115-136. <https://doi.org/10.2147/SAR.S183256>
- Herawati, C., Abdurakhman, R. N., & Rundamintasih, N. (2020). Peran dukungan keluarga, petugas kesehatan dan perceived stigma dalam meningkatkan kepatuhan minum obat pada penderita tuberkulosis paru. *Jurnal Kesehatan Masyarakat Indonesia*, 15(1), 19-23. <https://doi.org/10.26714/jkmi.15.1.2020.19-23>
- Iribarren, S. J., Wallingford, J., Schnall, R., & Demiris, G. (2020). Converting and expanding mobile support tools for tuberculosis treatment support: Design recommendations from domain and design experts. *Journal of Biomedical Informatics*, 112, 100066. <https://doi.org/10.1016/j.yjbinx.2019.100066>
- Kementerian Kesehatan Republik Indonesia. (2016). *Peraturan Menteri Kesehatan Republik Indonesia No 67 tahun 2016 - Tentang Penanggulangan Tuberkulosis*. Kementerian Kesehatan Republik Indonesia.
- Kementerian Kesehatan Republik Indonesia. (2019). *Laporan Nasional Riset Kesehatan Dasar 2018*. Kementerian Kesehatan Republik Indonesia.
- Kipp, A. M., Audet, C. M., Earnshaw, V. A., Owens, J., McGowan, C. C., & Wallston, K. A. (2015). Re-validation of the Van Rie HIV/AIDS-related stigma scale for use with people living with HIV in the United States. *PLoS One*, 10(3), e0118836. <https://doi.org/10.1371/journal.pone.0118836>
- Kwaghe, A. V., Ilesanmi, O. S., Amede, P. O., Okediran, J. O., Utulu, R., & Balogun, M. S. (2021). Stigmatization, psychological and emotional trauma among frontline health care workers treated for COVID-19 in Lagos State, Nigeria: a qualitative study. *BMC Health Services Research*, 21(1), 855. <https://doi.org/10.1186/s12913-021-06835-0>
- Lee, L. Y., Tung, H. H., Chen, S. C., & Fu, C. H. (2017). Perceived stigma and depression in initially diagnosed pulmonary tuberculosis patients. *Journal of clinical nursing*, 26(23-

- 24), 4813-4821. <https://doi.org/10.1111/jocn.13837>
- Moya, E. M., & Lusk, M. W. (2013). Tuberculosis stigma and perceptions in the US-Mexico border. *Salud pública de México*, 55(suppl 4), s498-s507. <https://doi.org/10.21149/spm.v55s4.5155>
- Mathew, A. S., & Takalkar, A. M. (2007). Living with tuberculosis: the myths and the stigma from the Indian perspective. *Clinical infectious diseases*, 45(9), 1247-1247. <https://doi.org/10.1086/522312>
- Minarni, L., & Sudagijono, J. S. (2015). Dukungan keluarga terhadap perilaku minum obat pada pasien skizofrenia yang sedang rawat jalan. *EXPERIENTIA: Jurnal Psikologi Indonesia*, 3(2), 13-22. <https://doi.org/10.33508/exp.v3i2.904>
- Oladimeji, O., Tsoka-Gwegweni, J. M., Adeyinka, D. A., Makola, L., Mitonga, K. H., Udoh, E. E., & Hazangwe, P. (2018). Knowledge, attitude and perception of tuberculosis management among tuberculosis-infected patients in resource constraint setting: field experience from Oyo state, South-West, Nigeria. *International Journal of Community Medicine and Public Health*, 5(5), 1694.
- Osamor, P. E., & Owumi, B. E. (2011). Factors Associated with Treatment Compliance In Hypertension In Southwest Nigeria. *Journal of Health, Population, and Nutrition*, 29(6), 619. <https://doi.org/10.3329/jhpn.v29i6.9899>
- Pare, A. L., Amiruddin, R., & Leida, I. (2012). Hubungan antara pekerjaan, PMO, pelayanan kesehatan, dukungan keluarga dan diskriminasi dengan perilaku berobat pasien TB paru. *Journal Infectious Diseases*, 14(6), 60-68.
- Prasetyo, F. A., & Gunawijaya, J. (2017). Manfaat Kelompok Dukungan bagi Orang dengan Schizophrenia untuk Meningkatkan Pengendalian Diri: Studi Kasus pada Komunitas Peduli Schizophrenia Indonesia (KPSI) Jakarta. *Jurnal Sosio Konsepsia*, 6(3), 221-234.
- Ritsher, J. B., Otilingam, P. G., & Grajales, M. (2003). Internalized stigma of mental illness: psychometric properties of a new measure. *Psychiatry research*, 121(1), 31-49. <https://doi.org/10.1016/j.psychres.2003.08.008>
- Riyanto, A. (2011). *Application of Health Research Methodology*. Yogyakarta: Nuha Medika.
- Saraswati, R., Hasanah, N., & Al Ummah, M. B. (2016). Konsep Diri Penderita TB Paru Di RS PKU Muhammadiyah Gombong. *Jurnal Ilmiah Kesehatan Keperawatan*, 12(2), 91-101. <https://doi.org/10.26753/jikk.v12i2.155>
- Sari, Y. (2018). Gambaran Stigma Diri Klien Tuberkulosis Paru (Tb Paru) Yang Menjalani Pengobatan Di Puskesmas Malingping (Self Stigma Of Pulmonary Tuberculosis Among Patients Seeking). *Media Ilmu Kesehatan*, 7(1), 43-50. <https://doi.org/10.30989/mik.v7i1.266>
- Septia, A., Rahmalia, S., & Sabrian, F. (2014). Hubungan Dukungan Keluarga Dengan Kepatuhan Minum Obat Pada Penderita TB Paru. *urnal Online Mahasiswa Program Studi Ilmu Keperawatan Universitas Riau*, 1(2), 1-10.
- Somma, D., Thomas, B. E., Karim, F., Kemp, J., Arias, N., Auer, C., ... & Weiss, M. G. (2008). Gender and socio-cultural determinants of TB-related stigma in Bangladesh, India, Malawi and Colombia [Special section on gender and TB]. *The International Journal of Tuberculosis and Lung Disease*, 12(7), 856-866.
- Unalan, D., Soyuer, F., Ceyhan, O., Basturk, M., & Ozturk, A. (2008). Is the quality of life different in patients with active and inactive tuberculosis. *Indian J Tuberc*, 55(3), 127-137.
- Watson, A. C., Corrigan, P., Larson, J. E., & Sells, M. (2007). Self-stigma in people with mental illness. *Schizophrenia bulletin*, 33(6), 1312-1318. <https://doi.org/10.1093/schbul/sbl076>
- WHO. (2016). *Global Tuberculosis Report 2016*. World Health Organization.