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The Relationship Of Stress Level With Self-Efficacy In Pulmonary Tuberculosis (TB) Patients

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Abstract
Pulmonary tuberculosis impacts the psychological state (mental) in the form of stress. Self-efficacy focuses on the belief in being able to perform self-care management. This study aims to identify the relationship stress levels with self-efficacy in TB patients. The design of this study is correlational quantitative research with cross-sectional approach. The research sample was 64 Pulmonary tuberculosis patients with a purposive sampling technique. The questionnaire as a data collection tool is the DASS 42 specifically for stress and the Pulmonary tuberculosis self-efficacy questionnaire. The statistical test used is the Spearman rank correlation. The results of this study was the average stress score was 6.41, and the patient's average self-efficacy was 64.92. Spearman correlation test showed significant relationship stress levels with self-efficacy of Pulmonary tuberculosis patients p < 0.001 correlation (r) of -0.631, which showed strong relationship. There is a relationship between stress levels and self-efficacy in pulmonary TB patients. Nurses are expected to be able to provide comprehensive nursing care through health education related to the treatment of pulmonary tuberculosis and motivate patients to continue to recover in treatment to completion.

Keywords:
Pulmonary tuberculosis; Self-efficacy; Stress

INTRODUCTION

Tuberculosis (TB) is a chronic infectious disease that is transmitted due to Mycobacterium tuberculosis infection [1]. Tuberculosis usually attacks the lungs (pulmonary tuberculosis) and can also attack other body organs (extra pulmonary tuberculosis) [2]. However, control efforts with the DOTS strategy (Direct Observed Treatment, Short course Chemotherapy) has been implemented since 1995, and pulmonary tuberculosis is a major health problem in the world [3].

Tuberculosis is one of the top 10 causes of death and the leading cause of infectious agents. WHO estimates that the incidence in 2017 was 319 per 100,000 population, while TB-HIV was 14 per 100,000 population cases per year. Deaths due to Tuberculosis were estimated at 40 per 100,000 population, and TB-HIV deaths at 3.6 per 100,000 population. In 2017 there were 442,000 cases of Indonesian TB recorded in the program [4]. Tuberculosis cases in children in Jember Regency in 2019 were 180 [5].

Pulmonary tuberculosis reduces physical health and also interferes with psychological and social conditions [6], [7]. Research by [8] states that Pulmonary tuberculosis causes psychosocial impacts, such as being looked down upon by the surrounding environment. The psychological effects of Pulmonary tuberculosis in a study conducted by [9] include increasing patient emotions, disappointment, confusion, regret, and stress. Pulmonary TB patients need to increase

spiritual intelligence to reduce the risk of stress [10].

Stress is the body's reaction to the demands of life due to the influence of the environment [11]. Stress is caused by an imbalance between the pressure on the individual, so the individual is unable to deal with the pressure [12]. Stress that does not immediately get good treatment will interfere with the body's condition [13]. The impact of stress is hazardous for a person's survival not only on the psychological side, but stress also has a terrible impact on physical health. Someone who experiences stress regularly can significantly impact the human mind and body. It can cause mental exhaustion and make people irritable or angry, unable to sleep, and lose their appetite and libido. Stress can also increase the risk of various diseases, including cardiovascular and gastrointestinal diseases, as well as diabetes [14], [15]. Someone who is stressed will experience physical responses such as decreased focus, headaches, and psychological responses, namely the emergence of anxiety, decreased motivation, lack of confidence, and boredom [16].

Self-efficacy is the belief that a person has about his ability to organize and decide specific actions needed to obtain specific results. Self-efficacy comes from performance accomplishments, verbal persuasion, physiological feedback, vicarious experience, and emotional arousal [17]. Self-efficacy will make individuals confident to take action in overcoming all difficulties [18]. Self-efficacy will also give confidence that someone will be successful in doing treatment self [19]. Sources of self-efficacy can be achieved through cognitive, motivation, affection, and selection. Self-efficacy is formed from self-assessment of abilities and feelings of threats that can lead to motivation to organize actions [20]. In addition, the environment also affects the self-efficacy formation. The self-efficacy dimensions are magnitude, strength, and generality [21]. Individuals who can understand the three dimensions of self-efficacy positively will have a more meaningful and better life and be involved in health promotion activities. Increasing a person's self-efficacy is associated with increased adherence to medication, health promotion behavior, and decreased physical and psychological symptoms [22].

Patients unable to adjust to their disease will result in adverse outcomes such as non-adherence to treatment. Self-efficacy has a role in initiating and maintaining healthy behaviors, so it is believed that increasing efficacy in health behaviors will lead to improved health and increased healthy behavior.

METHOD

The purpose of this research was to analyze the relationship self-efficacy with stress levels in TB patients in Jember Regency, East Java. The design was correlational quantitative research with a cross-sectional approach. The variables studied in this study were the level of stress and self-efficacy.

The population were people diagnosed with TB who lived in Jember, namely 69 patients. The sampling technique is non-probability sampling purposive sampling. The inclusion criteria in this study were smear-positive pulmonary tuberculosis patients on treatment at the Public Health Center in Jember Regency, communicate well, and willing to participate. Exclusion criteria in this study were pulmonary tuberculosis patients with comorbidities such as stroke. The approval of the Ethical Clearance of Health Research was approved by the National Political and Community Unity Agency of Jember Regency and the Jember Regency Health Office, East Java.

Stress measurement in this study used the DASS 42 questionnaire, adopted and developed by Lovibond (1995) [23]. The self-efficacy data collection tool is a self-efficacy questionnaire sheet for Pulmonary

tuberculosis patients. This questionnaire was compiled by researcher Anggi (2016) regarding the concept of Astuti (2014) [24].
Researchers did not test the validity and reliability of the DASS instrument adopted from Lovibond (1995) because it has been tested [23]. The validity and reliability test results on the stress level questionnaire resulted in Cronbach's Alpha 0.880, and there were 14 questionnaire statements representing the stress indicator variables where all statements were declared valid.
The researcher did not test the validity and reliability of the self-efficacy instrument because it was carried out by [24] by asking for consideration from 2 experts (content validity) and continued testing on 30 respondents with an r table value of 0.765. The validity test results obtained a value of r = 0.779-0.892, which means that all statements in the Self-efficacy questionnaire for Pulmonary tuberculosis patients are valid because r count > r table. The reliability test results Cronbach's Alpha > 0.765[24].
The normality test using the Kolmogorov-Smirnov test was said to be normal if p > 0.05. The normality test for the stress level variable obtained a p-value < 0.000, which means that it is not normally distributed. The results of the self-efficacy normality test obtained a p-value 0.059, which means that it is normally distributed. The data analysis used was the Spearman correlation test.

RESULTS AND DISCUSSION

Characteristics of respondents consisted of age, gender, and income level.

Table 1. Age Characteristics of TB Patients; (n=64)

Variable	Mean	SD	Min-Max
Age (years)	38,91	14,37	16-76

Table 2. Characteristics of Respondents by Gender and Income Level of TB patients (N=64)

Variable	Frequency	Percentage (%)
Gender		
Female	23	35,9
Male	41	64,1
Total	64	100
Income Level		
Under the regional minimum wage (<Rp.1.763.392)	48	75
Above the regional minimum wage (>Rp.1.763.392)	16	25
Total	64	100

Table 3. The average value of the stress level of pulmonary tuberculosis (N=64)

Variable	Mean	Median	SD	Min-Max
Stress	6,41	6,00	4,42	0-20

Table 4. Categories of Stress Levels in TB Patients (n=64)

Variable	Frequency	Percentage %
Stress Level		
Normal	60	93,8 %
Moderate Stress Level	2	3,1 %
Mild Stress Level	2	3,1 %
Very Severe Stress Level	0	0
Severe Stress Level	0	0
Total	64	100%

Table 5. The average value of self-efficacy in TB patients (n=64)

Variable	Mean	Median	SD	Min-Max
Self-efficacy	64,92	66,00	5,95	48-74

Table 6. The results of the analysis of the relationship stress levels with self-efficacy in TB patients (n = 64)

Variable	r	p-value
Stress Level Self-efficacy	-0,631	0,001

The results of data analysis in table 6 obtained p-value of 0.001. This study used a significant level of 0.05 (5%). The analysis showed that p-value < 0.001, so it was concluded that there was a significant relationship between stress levels with self-efficacy in TB patients. The correlation (r) obtained is -0.631, which indicates there is a relationship with the level of strong relationship stress levels with self-efficacy in TB patients. The correlation value is negative, the more severe stress level, the less good the self-efficacy of Pulmonary tuberculosis patients.

Stress in Pulmonary tuberculosis patients

The study's results on pulmonary tuberculosis patients showed that the average stress value was 6.41. The highest percentage of stress is in the normal category as many as 60 people (94.4%). It shows that most Pulmonary tuberculosis patients are at normal stress levels. This study are inversely proportional to the results of Masitoh's (2014) research, which states that the length of treatment affects patients undergoing treatment, such as feeling bored and depressed, which triggers an increase in stress [25].

Stress causes a person to be unable to cope with threats physically, emotionally, mentally and spiritually which can interfere with one's physical health. Research by Amelda et al. (2012) states that Pulmonary tuberculosis causes psychosocial impacts, such as being looked down upon by the surrounding environment [8]. The psychological effects of Pulmonary tuberculosis in a study conducted by Prasetyo & Hari (2016) include increasing patient emotions, disappointment, confusion, regret, and stress [9]. The researcher's analysis of the data above shows that this study's results differ from the theory because stress is not only influenced by long treatment but also by motivation, social experience, psychological defense, and intelligence.

Self-efficacy in Pulmonary tuberculosis patients

Self-efficacy is the belief that a person has about his ability to organize and decide specific actions needed to obtain specific results. Masitoh (2014) states that a low level of self-efficacy causes individuals to consider themselves incapable of doing something useful or feel less productive due to suffering from Pulmonary tuberculosis [25]. The average value of self-efficacy of Pulmonary tuberculosis patients is 64.92.

Anggi (2016) states that pulmonary tuberculosis patients with good self-efficacy are characterized by their belief in the ability to feel optimistic, think, motivate themselves and behave healthily [24]. According to Bandura (1994), factors that affect efficacy include gender, age, and level of education [17]. According to the researcher's analysis of the data above, many patients have good self-efficacy due to several factors, including age. Someone older has more experience in overcoming a problem that occurs when compared to younger individuals.

The Relationship between Stress Levels and Self-efficacy in Pulmonary Tuberculosis Patients

The results of statistical tests using Spearman with a p-value of 0.001 concluded that there was a significant relationship between stress levels and self-efficacy in pulmonary tuberculosis patients in the Jember Regency. The correlation (r) obtained is -0.631, which indicates there is a correlation with strong level of closeness between stress levels and self-efficacy of pulmonary tuberculosis patients. The correlation value is negative, which means that the more severe the stress level, the less good the self-efficacy of pulmonary tuberculosis patients.

Stress on the patient will affect the healing process of the disease because the patient is unable or not motivated to manage his

illness, such as the length of treatment [26][27]. Exposure to long-term and uncontrolled stress can have a negative impact on health [28]. Family social support will help in reducing stress and is very important for maintaining individual mental health [29]. Good self-efficacy will motivate patients to increase self-confidence and the ability to influence patients in determining the action to be taken [20]. Self-efficacy is the belief that a person has about his ability to organize and decide specific actions needed to obtain specific results.. Individuals with good self-efficacy will show good problem-solving and decision-making, high motivation in life, high goal and target setting, low-stress levels, and the courage to do complex activities [30] [31].

Nurses need to carry out an appropriate assessment of the stress and self-efficacy of pulmonary TB patients to determine appropriate stress management interventions and increase self-efficacy. Nursing care given to TB clients should be emphasized in health promotion, such as health education, with the hope that there will be no dropouts or TB transmission due to TB patients' ignorance regarding their disease. Good health promotion is expected to prevent the transmission of pulmonary tuberculosis and improve its functioning. Nurses can also provide health education related to drug side effects by providing non-pharmacological nursing interventions to avoid aggravating the work of the kidneys and liver when pulmonary tuberculosis patients have to take drugs regularly. In addition, nurses can detect severe side effects of drugs such as vision problems early so that they can be treated early with the medical team and do not worsen the condition of the pulmonary TB patient. Nurses must motivate TB patients to remain enthusiastic about recovering in undergoing TB treatment to completion.

CONCLUSION

In this study, it can be concluded that there is a relationship between stress levels and self-efficacy in pulmonary TB patients. Stress can affect the patient's self-efficacy, so it impacts the patient's self-confidence in managing his illness. Therefore, it is essential for health workers, especially nurses, to provide appropriate interventions in managing patient stress so that self-efficacy becomes optimal.

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