



Original Research

The Correlation of Spiritual Status and Anxiety Level in Patients with Pulmonary Tuberculosis

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ABSTRACT

Introduction: Pulmonary tuberculosis (TB) is an infectious disease caused by the mycobacterium tuberculosis. The increasing prevalence of tuberculosis and infectious disease overall is causing patients to experience anxiety. Someone who experiences anxiety will find support in their religious beliefs. The purpose of this research was to analyze the relationship between spirituality and the anxiety level of patients with pulmonary tuberculosis.

Methods: The study design was analytical observational research with a cross-sectional approach. The independent variable was spirituality and the dependent variable was anxiety. The population of this research was 55 people with pulmonary tuberculosis. The sample totaled 49 people. The retrieval of the data was conducted on 1-31 May 2018 using the Simple Sampling Random technique. The research instrument used the anxiety questionnaire DASS 21 and spiritual questionnaire DSES and the results were tested using Spearman Rho Correlations

Results: The statistical results with $\rho = 0.01$ with $\rho \leq 0.05$. The results of this study show that the majority of the anxiety levels experienced are normal and that the spiritual outcomes for the majority are at a high level. This shows the relationship between the anxiety level and the spirituality of the patients with pulmonary tuberculosis at Puskesmas Perak Timur Surabaya.

Conclusion: The result of the correlation coefficient was 0.552. The implication that the research indicates is that high spiritual intelligence causes someone to reduce their anxiety. Expected health workers can provide more education about the treatment to further reduce the anxiety levels of pulmonary tuberculosis patients.

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INTRODUCTION

Pulmonary tuberculosis (TB) is an infectious disease caused by Mycobacterium tuberculosis. Pulmonary tuberculosis is currently a major health problem globally (Sari, Mubasyiroh, & Supardi, 2017). The increasing prevalence of TB patients will have an impact on both the patients and their families. Some of the anxiety experienced by the family includes a decrease in the quality of life of the sufferers, the transmission of disease, the risk of complications and the risk of death. Anxiety reactions in families of TB

patients can reduce the ability of the families to care for the patients (Rohmi, Soeharto, & Lestari, 2015). Anxiety is a natural human attitude as a form of bodily response when facing threats (Luana NA, Sahala Panggabean, Joyce VM Lengkong, 2012). One effort to overcome anxiety is to get closer to one's religious beliefs. Thus the patient is expected to accept the condition of his illness even when there is a long healing process and uncertain results (Perdana & Niswah, 2011). According to Nuraeni et al (2015), spiritual needs are needed by the patients with a chronic disease. However, how the relationship

between anxiety levels and spirituality in tuberculosis patients still requires in-depth study.

According to the World Health Organization's Global Tuberculosis Report (2017), tuberculosis is one of the 10 diseases with the highest mortality worldwide. In 2017, Indonesia was third in the ranking on the most cases of TB. The East Java Province showed that the number of TB cases had reached 41,404 cases. Surabaya City has the most TB cases in East Java totaling 3990 (Kemenkes RI, 2018) followed by Jember Regency with 3334 cases (Ariyani, 2016). In the Perak Timur Health Center, the number of tuberculosis patients from March to June 2017 numbered 89 patients while in October 2017 to March 2018, there were 55 patients.

The complications of TB can have serious effects on other organs and parts of the body including the bones and brain (Suhaidah, 2013). Continuous anxiety will lead to depression with feelings of uncertainty and helplessness (Risksedas, 2018). One effort to overcome anxiety is to increase the patient's spiritual beliefs. Spiritual intelligence is one solution that offers spiritual calm. Spiritual intelligence is the intelligence used to face and solve life problems. It is an intelligence that manifests in ways of behaving and living in a broader context of life (Husain, Dearman, Chaudry, Rizvi, & Waquas waheed, 2008). The development of a good spiritual aspect can make someone more able to interpret their life and have a level of self-acceptance of their condition so as to provide a positive response to changes in his health (Sadipun, Dwidiyanti, & Andriyani, 2018).

Up until now, spirituality as a part of therapy is still on a limited basis. Nurses have not optimally provided the patient with a way to meet their spiritual needs. Most nurses still perceive that spiritual fulfillment can only be done in the form of religious worship facilities. Thus the results of this study are expected to provide an overview of the relationship between anxiety and the spiritual level of tuberculosis patients.

MATERIALS AND METHODS

This study used an observational analytic research design with a cross-sectional approach. This research was carried out in the period 1st-31st May 2018 at the Puskesmas Perak Timur Surabaya. The population was tuberculosis patients. The sample of this study was 49 tuberculosis patients in the Puskesmas Perak Timur Surabaya. The sampling technique used was simple random sampling. The inclusion criteria were tuberculosis patients who could communicate. Respondents were excluded if they were not in place when collecting the data and if they were younger than 18 years old. The spiritual instrument in this study was the DSES (Daily Spiritual Experience Scale) questionnaire and the anxiety instrument used was the DASS questionnaire consisting of 21 questions. All of the respondents in this study were given an explanation of the purpose and benefits of the study. The explanation was given both orally and in writing.

This research has been ethically approved by the Health Research Ethics Commission STIKES of Hang Tuah Surabaya number PE/07/V/2018/KEPK/SHT.

RESULTS

Based on Table 1, out of the 49 respondents, 17% were aged 46-55 years while based on gender, 53.1% were male. As many as 40.8% of the respondents had a high school education level. Based on employment status, the majority of respondents were entrepreneurs (59.2%). For the treatment category of less than 6 months, 93.1% of the 49 study respondents fitted here. Based on marital status, the majority of the respondents were married at 71.4%.

Table 2 shows that of the 49 respondents, the majority at 30 respondents had a high spiritual level. From the 30 respondents with a high spiritual level, 16 people did not experience anxiety. Only 4 respondents experienced severe anxiety. Out of the 30 respondents who have a high spiritual level, 9 people are in the age range of 36-45 years old. For level of education and gender in the group of respondents with high spirituality, there was no significant difference. The results of the data show that of the 30 respondents with a high spiritual level, 22 respondents were married and 18 had been in the TB treatment category for less than 6 months.

The results in Table 2 show that out of the 49 respondents, there were 20 respondents who did not experience anxiety. Of the 20 respondents, 8 had an age distribution of 36-45 years and 12 were male. In addition, from the 20 respondents, there were 18 respondents in the treatment category of less than 6 months. Table 2 also shows that out of the 49 TB respondents, 20 respondents did not experience anxiety and 16 of them had high spiritual levels. The Spearman rho test analysis results obtained a ρ value = 0.01 with a significance level $<\alpha = 0.05$. Thus the results show that there is a relationship between spiritual level and anxiety level. The correlation coefficient is -0.708 which means that the higher the spiritual level, the lower the anxiety level.

DISCUSSION

This study aims to analyze the relationship between spiritual level and anxiety in pulmonary TB patients in Puskesmas Perak Timur Surabaya. Based on the results of this study, it showed that there was a relationship between spiritual level and anxiety level. The negative correlation coefficient indicates that the higher the spiritual level, the lower the anxiety level.

Tuberculosis is a contagious disease that most often occurs in the lungs (Tosepu, 2016). TB is chronic and the cure takes a long time. The healing of pulmonary TB is influenced by the adherence to taking medication and the immune system. The complaints due to pulmonary TB such as shortness of breath, chest pain and decreased appetite will increase the level of anxiety felt. This is in line with

Table 1. Characteristics of the Respondents Based on their Sociodemographic Details (n=49)

	Characteristic	Frequency	(%)
Age	17-25	6	12,2
	26-35	9	18,4
	36-45	11	22,4
	46-55	17	34,7
	56-65	4	8,2
	66-70	2	4,1
Gender	Male	26	53,1
	Female	23	46,9
Education	No school	2	4,1
	Primary school	13	26,5
	Junior high school	10	20,4
	Senior high school	20	40,8
Occupation	Bachelor	4	8,2
	Housewife	17	34,7
	Unemployed	3	6,1
Treatment term category	Entrepreneur	29	59,2
	Category 1 (<6 month)	36	93,9
	Category 2 (>6 month)	3	6,1
Marital status	Single	11	22,4
	Married	35	71,4
	Widower	2	4,1
	Widow	1	2,0

Table 2. Anxiety Level and Spiritual Level of the Pulmonary Tuberculosis Patients in Puskesmas Perak Surabaya (n = 49)

Anxiety level	Spiritual		
	Low (n=6)	Moderate (n=13)	High (n=30)
Normal	0	4 (8,2%)	16(32,7%)
Mild anxiety	0	0	5(10,2%)
Medium anxiety	0	0	2 (6,7%)
Serious anxiety	0	1 (2%)	3 (6,1%)
Very severe anxiety	6 (12,2%)	8 (16,3%)	4 (8,2%)
Total	6	13	30
The Spearman rho test $\rho = 0.01$ r correlation = -0.708			

the results of the research conducted in Pakistan on 108 pulmonary TB patients who showed symptoms of anxiety and depression associated with the symptoms and complaints experienced (Husain et al., 2008). Anxiety and depression will cause the TB patients to experience a decrease in motivation, a reduction in compliance with medication and a worsening of their condition. Severe anxiety will affect the hypothalamus. The anterior pituitary gland will be prompted to produce ACTH. ACTH will produce cortisol. Cortisol will reduce the body's immune system so then the patients with TB will experience subsequent complications (Santos, Lazzari, & Silva, 2017). Anxiety indicates uncertain feelings, panic, fear and the inability of to understand the source of their fear. Anxiety arises because of several situations that threaten their integrity as a social being. In this case, pulmonary TB patients sometimes get a negative stigma from the community because it can be contagious, so the patients will increasingly feel helpless and this will increase their anxiety.

Suhaidah (2013) revealed that the factors that influence anxiety are age, cultural values, spirituality, education, physical condition, coping responses, social support, stages of development, past experience and knowledge. Age greatly affects one's

psychology. The older someone is, the better their level of emotional maturity and the better their ability to deal with various problems. Anxiety is connected to feelings of helplessness and uncertainty. Based on the results of this study, the majority of respondents were aged 46-60 years. This is consistent with the previous research which states that TB is often experienced by patients in the age range of 46-60 years. This age group is vulnerable due to the aging process as it decreases the body's immunity (Sadipun et al., 2018). Hope is related to uncertainty in life and it is an interpersonal process that is built through trusting relationships with others, including with God. Hope is very important for individuals to maintain life. Without hope many people become depressed and they are more likely to get sick.

The results of this study indicate that the majority of the respondents did not experience anxiety and that this was correlated with a high spirituality level. A high spiritual level can reduce the anxiety in patients with pulmonary TB. Individuals with a high spiritual level can build good coping mechanisms to deal with their anxiety. The factors that influence the coping mechanisms used include hope, age, and social support. Good coping mechanisms can be obtained through a spiritual approach such as meditation and this shows the improved emotional control of the TB

patients (Sadipun et al., 2018). This result is consistent with the research (Karomah, 2015) which shows that the spiritual level also affects the emotional control of the TB patients. In addition, spiritual beliefs have a strong effect on psychological functioning. Religious spiritual activities paired with physiological activities reduce stress, result in the participant not being afraid of death and becoming more resilient in the face of the disease process (Marsinova Bakara et al., 2013).

Spiritual therapy will improve the quality of life of TB patients (Kusnanto, Pradanie, & Alifi Karima, 2016). This is needed to cure the TB patients. Anxiety will reduce one's thinking power so as to further reduce the body's resistance through the effect of increased cortisol. Spiritual intelligence is the foundation needed to enable individuals to function with intellectual and emotional intelligence (Lesmana, 2014).

The results of this study indicate that the anxiety is severely experienced by the majority of the women. Anxiety in women is caused by taking care of the household as well as being the backbone of the family (Yuliani & Purwanti, 2013). The anxiety experienced by menopausal women can be reduced by SEFT spiritual therapy for 3 weeks. Although the study did not examine the anxiety felt by TB patients, the similarities showed that anxiety was experienced by many women and it also showed that spirituality can reduce the respondent's anxiety level. These results are also consistent with the results of the research conducted by Marsinova Bakara et al (2013). Out of the 23 respondents with SKA, it was demonstrated that spiritual therapy can reduce the levels of anxiety, stress and depression.

Culture and spirituality influence the way that an individual thinks. Individuals who have high spiritual intelligence have the confidence that they can utilize the conditions that they experience as a gift from God. They will take wisdom from their situation. This makes the individuals with high spirituality always think positively. They try to optimize the healing process so as to accelerate and support their healing. Spiritual intelligence when thinking will lead individuals to a better quality life (Kusnanto, Haryanto, Sukartini, Ulfiana, & Putra, 2018). The power that arises in the individual will help them to realize the meaning and purpose of life. This will make the individual view his life experience as a positive experience, in addition to them gaining optimism about the future where their life goals become clearer. The feeling of knowing the meaning of life, which is sometimes identified with feeling close to God, will be a positive experience

Social and environmental support can also be a source of coping. Husain et al (2008) believes that the presence of other people can help someone to reduce their anxiety. The environment can also affect one's thinking. However in this study, the researcher did not examine the role of the PMO in the respondent so it is not known exactly how the social support

obtained by the respondent is also related to their anxiety other than the existence of a spiritual level. The role of the nurse is also very important when handling pulmonary TB patients, especially in psychological terms. Developing guidelines and training the health workers in TB clinics is useful to screen and treat the depression and anxiety present among TB patients (Duko, Gebeyehu, & Ayano, 2015). This can be considered in subsequent studies. The sample size is small. However, one of the strengths of this study is that we used validated and recognized measures.

CONCLUSION

Based on the research conducted on 49 respondents with pulmonary TB, it can be concluded that their level of spirituality is related to their level of anxiety. The implication is that nurses can direct the patients to increase their spirituality level in an effort to reduce their anxiety and support the patient's recovery.

CONFLICT OF INTEREST

No potential conflicts of interest relevant to this article have been reported.

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