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Research Article

Factors Related to the Level of Anxiety in Pulmonary Tuberculosis Patients in the City of Bandung

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Abstract

Aims: This study aims to determine the influencing factors Drug anxiety in pulmonary TB patients.
Methods: A quantitative descriptive design with a cross-sectional investigation on 95 patients with pulmonary tuberculosis who became respondents via total sampling was used in this study. The State Trait Anxiety Inventory (STAI) questionnaire was employed in this investigation. Frequency, Spearman correlation, and Simple Linear Regression were employed in this study's data analysis.
Results: The findings of this study on anxiety factors in TB patients show that the degree of education, information, and related family support pulmonary TB patient anxiety.
Conclusion: This study shows that the anxiety that appears in patients with pulmonary tuberculosis is influenced by several interrelated factors.

Keywords
Anxiety, tuberculosis, Pulmonary, Patients

INTRODUCTION

Pulmonary tuberculosis is a dangerous infectious disease. Mycobacterium tuberculosis can spread through the air. According to World Health Organization (WHO), one of the diseases that can cause death in the world is Tuberculosis. Tuberculosis is a disease with a fairly high mortality rate, namely 130,000 people die each year. Indonesia is now ranked third in the country with the highest tuberculosis cases in the world with a total population of tuberculosis sufferers of 888,904% or 8% of global sufferers reported in 2017 and 90% of people with pulmonary tuberculosis (1,2).

According to (3) the increased incidence of pulmonary tuberculosis is related to the level of anxiety in tuberculosis patients. Anxiety in tuberculosis sufferers is usually due to fears of transmitting the disease to other people, fear of not being cured due to changes in sleep patterns caused by coughing and shortness of breath, apart from that emotionally, feeling scared and helpless, emotionally and cognitively sufferers cannot concentrate, forgetfulness and pensive (4). These signs and indications can cause anxiety, either mild anxiety, more anxiety, or severe anxiety (5).

The process of treating tuberculosis requires quite a long time, so that every patient needs to have sufficient knowledge so that awareness arises in undergoing treatment. According to (6,7), knowledge is the result of "knowing" and this occurs after people sense a certain object. According to (8,9) increasing knowledge by providing information and counseling can reduce anxiety levels in tuberculosis patients.

There are many factors that influence anxiety in tuberculosis patients. Support

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system in treatment efforts is also needed in the success of treatment. Family support is important to motivate patients in treatment (10). Treatment for TB can be cured if healing is attempted in an orderly manner for 6-8 months, TB requires long and complex treatment (11,12).

As a result, research is needed to determine what factors influence the anxiety of tuberculosis patients, with the hope that if we know what factors influence it, we can overcome the anxiety of tuberculosis patients so that treatment can proceed smoothly and the disease is not transmitted to others. This study was conducted at Kiara Condong Health Center and Garuda Health Center in Bandung to determine what factors influence anxiety in pulmonary TB patients.

METHODS

This is a quantitative study with a cross-sectional study method to the dependency and independence variables. The dependent variable is patient concern about tuberculosis, while the independent factors are personal characteristics (age, gender, degree of final education, employment), knowledge, and family support. This study was carried out at two Bandung Community Health Centers, namely Kiaracondong Health Center and Garuda Health Center. This study was carried out between April 28 and May 28, 2022.

This study has received ethical approval, with permit number III/064/KEPKSLE/ STIKEP/PPNI/JABAR/IX/2022. The sample was chosen using total sampling, in which all people who met the research inclusion requirements were used as research subjects. The sample size is 95 persons. The first component contains demographic questionnaire data, such as age, gender, educational level, and occupation. The second section includes an anxiety questionnaire. The instrument utilized is the State Trait Anxiety Inventory (STAI), which was created by (13). STAI is a 20-item scale with a convergent validity of r = 0.886. The final section consists of a 20-item knowledge questionnaire. The final section included a family support questionnaire. In this case study, the data analysis methods used are univariate analysis, bivariate analysis, and multivariate analysis. To see the frequency distribution, average score, and minimum and maximum values, perform a univariate analysis. The Spearman rang correlation statistical test was used for bivariate analysis. A basic linear regression test was used to perform a multivariate test.

RESULTS

Demographic Characteristics of TB Patients

Table 1. Demographic Data of Pulmonary TB Patients (n=95)

Variable	Total f (%)
Sex	
male	41 (43.2)
female	54 (56.8)
Level of education	
Primary school	17 (17.9)
Junior high school	15 (15.8)
Senior high school	60 (63.2)
college	3 (3.2)
Profession	
unemployment	12 (36.4)
work	17 (51.5)

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Based on table 1 above, it was found that most of the respondents were female (56.8%), the last education level was senior high school (63,2%), worked (51.5%).

Characteristics of Age and Length of Illness of Pulmonary TB Patients

Table 2.
Age of patients with pulmonary TB (n=95)

Variable	Min-Max	Mean ± SD
Age (Mean ±SD)		
Min	18	39.52 ±10.467
Max	59	

Based on table 2 above, the results show that the average respondent is 39 years old with the youngest age 18 years and the oldest being 64 years old.

Univariate Analysis of Dependent and Independent Variables

Table 3.
Univariate Analysis on Dependent and Independent Variables

Variabel	Min-Max	Mean (SD)
Knowledge	21-29	22.85±1.516
Social Support	30-79	63.26±8.299
Anxiety	20-75	52.56±8.778

Based on table 3, it shows the overall average score of knowledge is 22.85 (SD=1.516). The higher the score, the higher the knowledge. For family support relationships, it shows an average value of 63.26 (SD=8,299). The higher the score, the higher the family support. Anxiety shows an average value of 52.56 (SD=8.778). The higher the score, the higher the anxiety.

Relationship of Independent Variables and Dependent Variables

Table 4. Bivariate Table Analysis Between Independent Variables and Dependent Variables

Variabel	Anxiety STAI (Continous)		Statistik
	p-value	r/t	
Age (continous)	0.127		Pearson correlation
Gender (nominal)	0.527		Independent t test
Education (ordinal)	0.017	-0.870	Independent t test
Work (nominal)	0.221		Independen t test
Knowledge (continous)	0.000	-0.461	Spearman correlation
Family support (continous)	0.007	0.275	Spearman correlation

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Based on table 4, the results show that the variables that have a correlation with anxiety are education (ρ-value 0.017), knowledge (ρ-value 0.000), and family support (ρ-value 0.007). While in the variables age, gender, occupation there is no correlation.

Multivariate Analysis

Variabel	Unstandardized B	SE	95% CI		*p-value*
			Lower bound	Upper bound	
Education	-0.793	1.092	-2.961	1.376	0.470
Knowledge	-2.224	0.656	-3.527	-0.920	0.001
Family support	0.036	0.113	-0.189	0.261	0.751

R^2 = 0.152 x 100% = 15.2%

Based on table 4.4, it was found that the results of the linear regression obtained the ρ-valueof education (> 0.05), knowledge (<0.05) and family support (> 0.05) and predictor power for anxiety with a contribution of 15.2%.

DISCUSSION

According to the study's findings, the better one's education, the lower one's anxiety. According to the education level statistics, the majority of respondents (63.2%) were SMA. The more educated a person is, the easier it is to receive information. A person's ability to receive information will be hampered by a lack of education. The level of anxiety is highly influenced by a person's educational background. The findings of this study are consistent with research in (14,15) which shows that the majority of tuberculosis patients have a high school education, approximately 13 persons (35.1%), based on this research. Education is offered to others in order for them to comprehend that the better a person's education, the easier it is to receive information and, ultimately, the more knowledge one has.

Based on the study's findings, it is known that there is a relationship between knowledge and anxiety levels of pulmonary tuberculosis, thus the research hypothesis is supported by the knowledge -value (0.05). Patients with pulmonary tuberculosis may be less aware of tuberculosis and do not grasp the treatment process due to a lack of patient awareness. The findings of this study are consistent with Sukrisno's research at PKU Muhammadiyah Karanganyar Hospital, which stated that knowledge has an effect on the level of anxiety in pulmonary tuberculosis patients, and that correct information is required to overcome anxiety in pulmonary tuberculosis patients. As a result, health workers must provide more information regarding pulmonary tuberculosis (16).

Family Support Overview

According to family support research findings, it has an average value of 63.26 (SD = 8,299). The higher the score, the stronger the familial support. Family support is crucial for the patient's health during therapy, allowing him to recover while also feeling cared for and loved. Patients with tuberculosis who receive family support will feel as if they are still being cared for by their loved ones, easing the patient's burden throughout the sickness. Having the support of family members may provide encouragement or an incentive to continue with regular treatment until it is done. It has

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an average value of 52.56 (SD=8.778), according to the results of an anxiety research. The higher the score, the greater the anxiety. This happens because the patient sends out an unduly negative message about pulmonary TB being a serious and difficult to treat condition. Despite the fact that pulmonary tuberculosis can be totally cured if the patient receives consistent treatment. Patients with pulmonary tuberculosis are anxious due to a lack of knowledge about the disease and how to prevent it, as well as a concern that being secluded from friends and family may spread the disease. Apart from that, there is concern that those with pulmonary tuberculosis would be unable to withstand long-term treatment, making the disease incurable. Anxiety will arise in patients with pulmonary tuberculosis as a result of a lack of awareness about the disease, making the patient's situation feel powerless and dismal. The findings of this study are consistent with Wilson-Barnet's research, as cited by (17), which states that the establishment of a therapeutic relationship by explaining what would happen to patients can lessen their anxiety levels. Treatment is lengthy enough that understanding pulmonary tuberculosis does not result in increased concern. The impact of significant anxiety caused by a lack of understanding can result in a lengthier healing process and irregular use of pulmonary tuberculosis medicines. The findings of this study support (18) finding that there is a link between knowledge of pulmonary tuberculosis and anxiety. Patients can benefit from information about tuberculosis from both the media and health professionals.

The Relationship between Education and Anxiety

Based on the results of research on education with anxiety, it was found that the education value of the majority of respondents in high school with a high level of education was the ability to absorb information (ρ-value 0.017), stating that education was a factor related to the anxiety level of pulmonary tuberculosis patients. The higher a person's education level, the less often they experience severe anxiety because it is easy to receive information so that they have more knowledge.

The results of this study are in accordance with (19) regarding pulmonary tuberculosis education which concluded that education is one of the factors that can affect the anxiety of tuberculosis patients where patients who have a high level of education have extensive knowledge so they can control themselves in dealing with the problems they face.

Relationship Knowledge with Anxiety

Based on the results of the study, it can be seen that knowledge (ρ-value (0.000) can be concluded that there is a significant relationship between knowledge and anxiety of tuberculosis patients with a negative relationship direction and low strength of the relationship. This shows that information about tuberculosis is still felt to be a lack of information when carrying out treatment to Public health center.

This is in line with Sukrisno's research (2008) at PKU Muhammadiyah Karanganyar Hospital which stated that there is an effect of knowledge on the level of anxiety of pulmonary tuberculosis, so that in order to overcome anxiety in pulmonary tuberculosis patients it is necessary to obtain correct information. Therefore, health workers need to increase the provision of information about pulmonary tuberculosis.

This is in accordance with (20) which states that a person's level of knowledge has a positive relationship to the level of anxiety that a person feels. Thus knowledge about tuberculosis is one that is expected and does not cause more severe anxiety. The impact caused by experiencing anxiety is due to lack of knowledge and can result in a longer healing process, irregular taking pulmonary tuberculosis medication and irregular treatment schedules.

The results of this study are in line with (21) it is known that there is a relationship between knowledge about tuberculosis and the level of anxiety in pulmonary

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tuberculosis patients at Tria Dipa Hospital Jakarta 2019 the research hypothesis is proven with a ρ-value of 0.047.

The results of this study are in line with (22) showing that there is a relationship between knowledge about pulmonary tuberculosis and anxiety. Information about tuberculosis from both the media and health workers can add insight and understanding to patients. Lack of knowledge can cause patients to be less aware of tuberculosis and do not understand the process of treating pulmonary tuberculosis.

Family Support Relationship with Anxiety

Based on the results of the study, it can be seen that family support (ρ-value 0.007). Family support is the most important element in solving problems. Family support will increase self-confidence and motivate to face problems. The support provided by the family to reduce the patient's anxiety itself is support where the family provides advice, suggestions, physical and spiritual support.

This research is in line with (23) that the family is the main support system for tuberculosis sufferers in maintaining their health. The role of the family in the care of sufferers includes looking after and caring for sufferers, maintaining and improving mental status, providing motivational support. If family support is high, it will reduce pain.

CONCLUSION

According to the research that has been done, the researcher can draw conclusions that at the UPT Puskesmas in the Kiaracondong sub-district (UPT Puskesmas Babakan Sari and UPT Puskesmas Babakan Surabaya) and UPT Puskesmas Garuda Kota Bandung, the age was identified with an average showing that more than half of the respondents were female (56.8%) with an average age of respondents 39.52 years. Most of the respondents work (60.0%) with the highest education in high school (63.2%). The average general knowledge score is 22.85 (standard deviation = 1.516). The higher the score, the more knowledgeable you are. It demonstrates that family support ties have an average value of 63.26 (SD=8,299). The higher the score, the stronger the familial support. The average value of anxiety is 52.56 (standard deviation = 8.778). The higher the score, the more concerned you are.

The results of the bivariate analysis showed that the variables that had a correlation with anxiety were education (ρ-value 0.017), knowledge (ρ-value 0.000), and family support (ρ-value 0.007). While in the variables age, gender, occupation there is no correlation.

The results of the multivariate analysis showed that the results of linear regression showed that the ρ-value of education (> 0.05), knowledge (<0.05) and family support (> 0.05) and predictor power for anxiety with a contribution of 15.2%.

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