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Analysis of Factors Associated with Stress Incidence of Pulmonary Tuberculosis Patients during the Covid-19 Pandemic

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Article Info	Abstract
	Stress is an unexpected reaction that arises as a result of the high demands of the environment on a person. Stress is an unexpected reaction that arises as a result of the high demands of the environment on a person. Covid-19 causes fear and stress, not least in pulmonary TB patients. The purpose of this research is analyze factors related to the incidence of stress in pulmonary TB patients during the Covid-19 pandemic. This research is an analytical survey research with a cross sectional approach. The population of this study were pulmonary TB patients at level II health facilities, namely Pantiwilasa General Hospital dr. Cipto which is a health facility with high category pulmonary TB patients as many as 204 patients. The sample that was successfully obtained as a whole was 189 respondents, The sampling technique used is total sampling. The research instrument used is a questionnaire. The data analysis in this study were univariate analysis (frequency distribution), bivariate analysis (rank Spearman correlation test) and multivariate analysis (ordinal logistic regression test). The results showed that there was a significant relationship between age, gender, knowledge, socio-culture and environment with the incidence of stress in pulmonary TB patients during the Covid-19 pandemic. Education, work and sources of information are not factors related to the incidence of stress in pulmonary TB patients during the Covid-19 pandemic. Gender, environment and age are the factors with the strongest relationshipwiththe incidence of stress in pulmonary TB patients during the Covid-19 pandemic.

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INTRODUCTION

Coronavirus Disease 2019 (Covid-19) infects almost all countries in the world, so in January 2020 WHO declared the world to be in a global emergency related to the Covid-19 virus (Yuliana, 2020). On September 20, 2020, WHO data reported a total of 30,675,675 confirmed global Covid-19 cases with 954,417 deaths (CFR 3.1%) in 215 affected countries and 180 local transmission countries. Meanwhile, according to data from the RI Ministry of Health/Public

Health Emergency Operations Center (PHEOC) emerging infections, on September 21, 2020 there were 248,852 confirmed cases of Covid-19 spread across 31 provinces out of a total of 34 provinces in Indonesia, with a total of 177,327 recovered cases (71, 3%) and 9,553 cases died (CFR 3.8%). There are many impacts caused by Covid-19 where almost all sectors are affected, not only health, but the economic sector is also experiencing serious impacts (Muliati, 2020).

According to the IASC (Inter-Agency Standing Committee) emergencies are always stressful, but the factors causing the special pressure of the Covid-19 outbreak can affect the community, such as the risk of being infected and infecting others, especially if the transmission of Covid-19 is not 100% known and general symptoms such as: Other health problems (e.g. fever) can be mistaken for Covid-19 and cause a fear of infection. In addition, for frontline health workers (including nurses, doctors, ambulance drivers, case identification officers, and others) the additional stressor factors during the Covid-19 outbreak can be even more severe (MHPSS Reference Group, 2020). Stress events can also occur in pulmonary TB patients which are manifested physically, psychologically, and behaviorally because of the conditions they are experiencing. Stress that is not handled properly can lead to irritability, anxiety, negative thinking, hopelessness, and a sense of helplessness (Penteado et al., 2020). This condition can result in pulmonary TB patients not regularly taking medication and even dropping out of medication, so that later it can affect the quality of life (Fuadiati et al., 2019).

Based on the observations made by the author, many health facilities state that there are pulmonary TB patients who are afraid to visit health facilities due to Covid-19, think negatively, are anxious to stress. Observations were carried out at several health facilities in Semarang City, where Semarang City is one of the cities with a high incidence of Covid-19. These stressful events raise concerns for health workers and the patient's family about the patient's condition. Stress itself is an unexpected reaction that arises as a result of the high demands of the environment on a person (Bavel et al., 2020). According to Berney and Selye there are four types of stress, namely eustress, distress, hyperstress and hypostress (Muslim, 2020).

Myrowsky and Ross (in Sahputri, 2019) states that individuals who experience stress have precipitating aspects such as depression and anxiety. If this continues, it will have an impact on a person's mental health. Next Browning et al., (2021) states that stress can interfere with a person's function in carrying out daily activities. Moreover, Covid-19 has caused public panic and mental health pressure, especially with the increasing coverage of countries affected by Covid-19 causing public anxiety. Pulmonary TB patients who have unfavorable conditions feel afraid or stressed about their safety (Fuadiati et al., 2019).

Based on research conducted Liu et al., (2021), regarding the link between the Covid-19 pandemic and mental health, it was stated that the Covid-19 pandemic with its massive transmission of transmission and high mortality rates caused problems that led to mental disorders. Covid-19 can cause increased stress levels in patients undergoing treatment. Study Ilpaj & Nurwati (2020) Regarding the analysis of the effect of the death rate due to Covid-19 on people's mental health, it was stated that the pressure during the global pandemic had caused several disturbances such as fear and anxiety both for oneself and those closest to them, changes in sleeping and eating patterns, feeling depressed and having difficulty concentrating. , boredom and stress and the emergence of psychomatic disorders. In pulmonary TB patients, stress will increase along with the many impacts of Covid-19, so good stress management is needed (Alnazly et al., 2021).

Various factors can influence the onset of stress, according to Brooks, Webster, et al., (2020)the emergence of stress can be influenced by environmental factors, individual or self and thoughts. The impact of stress can lead to a decrease

in health conditions. Various studies have been carried out in relation to factors related to the occurrence of stress, including: Azam et al., (2019) mentions that the factors that can affect the incidence of stress in tuberculosis patients are complications and comorbid diseases. Fuadiati et al., (2019) mentioned that stress in tuberculosis patients is also caused by the length of the treatment period and side effects of drugs. Apart from that Sutjiato & Tucunan (2015) in his research stated that the factors associated with the occurrence of stress include gender, status of residence and the influence of friends. Monica (2019) states that stress can occur due to low knowledge. Solehati (2019) mentioned that the source of information is also a factor that can affect the occurrence of stress. The emergence of stress will affect the treatment undertaken by pulmonary TB patients (Chen et al., 2021).

Covid-19 is spreading all over the world and Indonesia is no exception. One of the provinces with a high incidence of Covid-19 is Central Java Province, especially Semarang City. According to Semarang City's coronavirus alert data, the total number of confirmed cases was 38,572 people, 27,760 recovered cases and 2,023 deaths. The impact of Covid-19 can occur in all communities, including pulmonary TB patients. The author has made observations in one of the health facilities in the city of Semarang with the highest coverage of TB patients, namely Pantiwilasa dr. Cipto. Of the 25 TB patients at the health facility, 20 patients stated that they felt anxious and stressed due to Covid-19 when they were going to visit a health facility and about their illness. The health facility also stated that many TB patients feel anxious about contracting Covid-19. This needs to be studied further in order to know the factors that are relevant to the occurrence of stress in TB patients, so that it can be known for sure and appropriate stress management can be carried out for the patient.

Based on the description above, the author is interested in conducting a study on the analysis of Factors related to the incidence of stress in pulmonary TB patients during the Covid-19 pandemic.

METHOD

The research was conducted on Pulmonary TB patient at Pantiwilasa General Hospital dr. Cipto onAugust 2021. This research is an analytical survey research with a cross sectional approach. The population of this study were pulmonary TB patients at level II health facilities, namely Pantiwilasa dr. Cipto which is a health facility with high category pulmonary TB patients as many as 204 patients.The sample that was successfully obtained as a whole was 189 respondents.The sampling technique used is total sampling.

The independent variables in this study were gender, age, education, knowledge, occupation/economics, sources of information, socio-cultural and environmental, while the dependent variable used was the stress of pulmonary TB patients during the Covid-19 pandemic. The research instrument used is a questionnaire. The data analysis in this study were univariate analysis (frequency distribution), bivariate analysis (rank Spearman correlation test) and multivariate analysis (ordinal logistic regression test).

RESULTS AND DISCUSSIONS

The study was conducted on pulmonary TB patients at level II health facilities, namely Pantiwilasa dr. Cipto August 2021. The total sample that was obtained was 189 respondents. The results of the study can be described as follows:

Table 1. Characteristics of Respondents

Variable	F	%
Age		
17-25 years old	5	2.6
26-35 years old	60	31.7
36-45 years old	94	49.7
46-55 years old	30	15.9
Total	189	100
Gender		
Man	59	31.2
Woman	130	68.8
Total	189	100
Education		
No school	0	0
SD	0	0
junior high school	135	71.4
senior High School	31	16.4
College	23	12.2
Total	189	100
Work		
Does not work	4	2.1
civil servant	35	18.5
Private	109	57.7
Farmer	36	19.0
Laborer	5	2.6
Total	189	100

Table 1 shows that most of the respondents in this study were 36-45 years old, with 94 (49.7) respondents. Most of the respondents were female, namely 130 (68.8%) respondents. The average with the last education of junior high school is 135 (71.4%) and the majority of the respondents are private sector as many as 109 (57.7%) respondents.

Table 2. Univariate Analysis of each Variable

Variable	F	%
Knowledge		
Tall	15	7.9
Currently	141	74.6
Low	33	17.5
Total	189	100
Resources		
Health workers	14	7.4
newspaper	0	0
magazine	0	0
Television	30	15.9
Friend	82	43.4
Internet	63	33.3
Total	189	100
Socio-cultural		
Well	0	0
Enough	143	75.7
Bad	46	24.3
Total	189	100
Environment		
Well	7	3.7
Enough	163	86.2
Bad	19	10.1
Total	189	100
Stress		
Light	38	20.1
Currently	119	63.0
Heavy	32	16.9
Total	189	100

Based on Table 2 respondents in this study mostly with moderate knowledge as many as 141 (74.6%). Respondents received information related to health during the covid-19 pandemic, mostly from friends, namely 82 (43.4%). Socio-cultural conditions in the sufficient category are 143 (75.7%). Environmental conditions in the sufficient category are 163 (86.2%). Most of the respondents with moderate category stress were 119 (63.0%) respondents.

Table 3. Bivariate Analysis Results

Variable	Stress						Total		p-value
	Light		Currently		Heavy				
	F	%	F	%	F	%	F	%	
Age									
17-25 years old	3	1.6	2	1.1	0	0	5	2.6	0.000
26-35 years old	4	2.1	24	12.7	32	16.9	60	31.7	
36-45 years old	26	13.8	68	36.0	0	0	94	49.7	
46-55 years old	5	2.6	25	13.2	0	0	30	15.9	
Total	38	20.1	119	63.0	32	16.9	189	100	
Gender									
Man	13	6.9	43	22.8	3	1.6	59	31.2	0.039
Woman	25	13.2	76	40.2	29	15.3	130	68.8	
Total	38	20.1	119	63.0	32	16.9	189	100	
Education									
junior high school	30	15.9	76	40.2	29	15.3	135	71.4	0.343
senior High School	3	1.6	26	13.8	2	1.1	215	100	
College	5	2.6	17	9.0	1	0.5	23	12.2	
Total	38	20.1	119	63.0	32	16.9	189	100	
Work									
Does not work	2	1.1	1	0.5	1	0.5	4	2.1	0.810
civil servant	4	2.1	24	12.7	7	3.7	35	18.5	
Private	26	13.8	68	36.0	15	7.9	109	57.7	
Farmer	4	2.1	25	13.2	7	3.7	36	19.0	
Laborer	2	1.1	1	0.5	2	1.1	5	2.6	
Total	38	20.1	119	63.0	32	16.9	189	100	
Knowledge									
Tall	6	3.2	9	4.8	0	0	15	7.9	0.000
Currently	32	16.9	108	57.1	1	0.5	141	74.6	
Low	0	0	2	1.1	31	16.4	33	17.5	
Total	38	20.1	119	63.0	32	16.9	189	100	
Resources									
Health workers	4	2.1	10	5.3	0	0	14	7.4	0.528
Television	5	2.6	24	12.7	1	0.5	30	15.9	
Friend	16	8.5	36	19.0	30	15.9	82	43.4	
Internet	13	6.9	49	25.9	1	0.5	63	33.3	
Total	38	20.1	119	63.0	32	16.9	189	100	
Socio-cultural									
Enough	3	1.6	111	58.7	29	15.3	143	75.7	0.000
Bad	35	18.5	8	4.2	3	1.6	46	24.3	
Total	38	20.1	119	63.0	32	16.9	189	100	
Environment									
Well	7	3.7	0	0	0	0	7	3.7	0.000
Enough	31	16.4	108	57.1	24	12.7	163	86.2	
Bad	0	0	11	5.8	8	4.2	19	10.1	
Total	38	20.1	119	63.0	32	16.9	189	100	

Table 3 shows that the variables of age, gender, knowledge, socio-culture and environment with p-value <0.05, while the variables of education, occupation and sources of information with p-value>0.05. These results can be concluded that age, gender, knowledge, socio-cultural and environmental are factors related to the incidence of stress in pulmonary TB patients during the Covid-19 pandemic, while education, work and sources of information are not factors related to the incidence of stress in TB patients. All research variables were included in the multivariate model analysis. The final result of the model analysis showed that there were three variables that had a strong relationship with the incidence of stress in pulmonary TB patients during the Covid-19 pandemic, namely the gender variable, followed by the environmental variable and age where the p-value <0.05 was obtained.

The distribution of the results showed that the respondents in this study were dominated by female respondents as much as 130 (68.8%) respondents. Gender is often associated with stressful events where several studies have shown that women are more prone to stress than men (Kountul et al., 2018). Stress experienced by women is higher than stress in men (Sagita et al., 2021). Similarly, the results of research that have been carried out prove that female respondents have severe stress category compared to male respondents, 15.3% of female respondents have severe stress category, while only 1.6% of male respondents have stress in the heavy category.

Even when exposed to the same stressor, women may respond differently to men. Gender has a specific effect on behavioral patterns and health, as well as on self-perception of physical health and stress responses. Women are more prone to anxiety, guilt, sleep disturbances, and eating disorders (Sagita et al., 2021).

Women's brains have a negative response to conflict and stress. In women, conflict triggers negative hormones, causing stress, anxiety, and fear. While men generally enjoy conflict and competition, even consider that conflict can provide a positive boost. In other words, when women are under pressure, they are generally more prone to stress (Fahrianti & Nurmina, 2021). One of the things referred to as a trigger for women to be more easily stressed is hormonal conditions. Women and men actually have different hormones. Women are more

likely to experience changes in hormone levels. Women are more prone to hypothyroidism associated with depression (Yaribeygi et al., 2017). Stress is related to genetics or heredity, women have more genetic conditions that are more prone to depression than men. This then causes a woman to tend to be more prone to stress (Albert, 2015). Women are more prone to experiencing Seasonal Affective Disorder (SAD), a mood disorder characterized by depression. Usually this condition will occur at the same time and consistently every year. Women are said to have up to 4 times greater risk of experiencing the syndrome (Twenge et al., 2019).

The results showed that most of the respondents were in the age category 36-45 years (late adulthood) as many as 94 (49.7%). Age is often associated with stressful events where individuals with a young age will experience higher stress than individuals with an older age (Brooks, Webster R K, et al., 2020). Several studies state that age is one of the factors that can affect stress. Individuals at a young age are more likely to experience stress than older people (Browning et al., 2021).

Young age is a period of increased activity, development of basic self-awareness, and a search for security. This condition makes them more selective in choosing a social environment and easily falls into a state of self-isolation to stress if what is targeted is not achieved (Tabroni et al., 2016). Everyone is at risk for experiencing stress when faced with a condition that is perceived as a threat. In old age, because they have often been exposed to the same stressor with the same pattern, the individual will get used to it and consider the stressor as a normal thing. A person's response in dealing with stressors will not be the same as the first time, someone with advanced age will tend to be more able to manage stressors (Spinelli et al., 2020).

In accordance with the results of research showing that age 36-45 years (late adulthood) more prone to stress than the elderly. Analysis of the results of the questionnaire shows that most of the adult respondents often have difficulty taking the initiative to do something during the Covid-19 pandemic, tend to overreact to situations during the Covid-19 pandemic, panic easily during the Covid-19 pandemic and feel afraid during the Covid-19 pandemic. In contrast to the elderly respondents,

most of the respondents are more able to think positively, do not panic easily, are calmer and are not afraid.

Based on the research conducted, the results of statistical tests show that the level of education is not a factor related to the incidence of stress in pulmonary TB patients during the Covid-19 pandemic. From the bivariate analysis, it can be seen that both respondents with junior high, high school and college education feel stress, either mild, moderate or severe stress.

Hendrawati and Da (2018) explained that the higher a person's education level, the less likely they are to experience severe stress because it is easy to receive information so that the more knowledge they have. On the other hand, a lack of education will hinder the development of one's attitude towards the newly introduced values to deal with a problem (Kuncoroningrat, 1997, quoted by Nursalam and Pariani, 2001). A person's low level of education will more easily experience atres because the higher the level of education will affect his thinking ability (Stuart & Sundeen, 2000). A sufficient level of education will make it easier to identify stressors within themselves and from outside themselves. The level of education also affects awareness and understanding of the stimulus (Jatman, 2000).

The results of this study indicate that the level of education is not a factor associated with the incidence of stress. In line with Kuo's research, et al (2020) also showed the same result, namely there was no relationship between education level and stress during the Covid-19 pandemic. The existence of the Covid-19 pandemic has created new problems that have never been faced before, so that respondents who have a high or low level of education experience the same negative psychological effects.

The results showed that most of the respondents with moderate category knowledge were 141 (74.6%). The results of statistical tests prove that knowledge is a factor related to the incidence of stress in pulmonary TB patients during the Covid-19 pandemic. Analysis of the results of the questionnaire shows that most respondents with moderate knowledge will be followed by moderate stress category, respondents with high knowledge will be followed by lighter stress and respondents with low knowledge will be followed by severe

category stress. This happens because of the lack of information and knowledge possessed by respondents about pulmonary tuberculosis. The need for health education about pulmonary tuberculosis to respondents to add information and knowledge about pulmonary tuberculosis in order to reduce anxiety and even stress (Notoadmodjo, 2007). The more knowledge a person has, the more prepared that person will be to face something and can reduce stress. Ignorance of something is considered a pressure that can lead to crisis and can cause stress. Anxiety can occur in individuals with low levels of knowledge, due to the lack of information obtained. Ignorance of something is considered a pressure that can lead to crisis and can cause stress. Anxiety can occur in individuals with low levels of knowledge, due to the lack of information obtained. Ignorance of something is considered a pressure that can lead to crisis and can cause stress. Anxiety can occur in individuals with low levels of knowledge, due to the lack of information obtained.

A person's level of knowledge has a positive relationship to a person's perceived stress level (Hawari, 2001). The higher the respondent's level of knowledge, the lower the stress level because the higher the knowledge, the greater the ability to absorb and receive information so that knowledge and insight are broader (Suparyanto, 2011). A person's low level of knowledge will tend to be more prone to stress than someone who has a high level of knowledge (Hidayat, 2004). The results of the study are in line with the research of Hendrawati and Da (2018) which states that there is a significant relationship between knowledge and the stress level of pulmonary tuberculosis patients, where if knowledge is low, the stress level is high,

The results showed that most of the respondents with the majority of private employment status as much as 109 (57.7%). The results of statistical tests prove that work/socio-economic status is not a factor related to the incidence of stress in pulmonary TB patients during the Covid-19 pandemic. In general, the type of work determines what risk factors each individual must face. If a person works in a dusty environment, exposure to dust particles in the exposed area will affect the occurrence of disorders in the respiratory tract. Chronic exposure to polluted air can increase morbidity, especially the occurrence of symptoms of

respiratory tract diseases and generally pulmonary TB.

Work is related to a person's income level which can affect socioeconomic status. Where socioeconomic can be an indirect cause of pulmonary TB incidence such as inadequate family nutrition. During the Covid-19 pandemic, this has a negative impact, namely anxiety/stress on a person with pulmonary TB where most people are afraid to get infected. The results showed that work was not a factor related to the incidence of stress in pulmonary TB patients during the Covid-19 pandemic.

The results of the study are in line with the research of Diamanta et al., (2020) which states that the level of stress will affect the quality of life of pulmonary TB patients, but work/income level is not related to the incidence of stress and is not related to the quality of life of pulmonary TB patients. TB also has an impact on social life, giving rise to stigma so that it can lead to social isolation. An effort is needed in conveying health messages to the community or groups, namely health education.

The results showed that the majority of respondents received information related to health during the COVID-19 pandemic, mostly from friends, namely 82 (43.4%). Statistically, the source of information is not related to the incidence of stress in pulmonary TB patients during the Covid-19 pandemic. Sufficient information can produce knowledge related to how to prevent a disease, so that individuals can recognize existing problems. This encourages healthy behavior (Kusworo et al. 2014:180).

Several studies have stated that the role of the media is important in shaping one's knowledge in understanding health problems. Inaccurate information, will greatly affect the knowledge that becomes less precise as well. Increased exposure to information can encourage individual interest to always try to find information related to what is sought in various forms. Sources of information can be obtained freely ranging from peers, books, films, videos, and even easily open sites via the internet. The use of media can motivate positive behavior from its users. The higher the use of mass media, the higher the level of one's health knowledge (Sidiq, 2015:939). This study shows that the source of information is not a factor related to the occurrence of stress. It can be seen that both respondents with

sources of information from friends, health workers, television and the internet have the same level of stress, either mild, moderate or severe. This can be influenced by other factors which in this study are knowledge, age, gender, socio-cultural and environmental.

This is in line with Muslim research (2020) which proves that sources of information are not related to stressful events. The Covid-19 pandemic condition causes some people to feel excessive worry or fear and think that doesn't make sense. Not infrequently they have suspicions and prejudices on people who have signs of Covid-19 sufferers. This makes people more and more trying to find news about Covid-19, and unable to sort out accurate news, causing anxiety. Such circumstances make a person experience difficulty sleeping, headaches, and other physical disorders. This is called a stress condition. It is stated that only people who are able to adapt and manage well the existing conditions will avoid stress.

The results showed that most of the respondents with sufficient environmental conditions were 163 (86.2%). The results of statistical tests prove that the environment is related to the incidence of stress in pulmonary TB patients during the Covid-19 pandemic. The environment in this study is the environment/support from family, close friends or the surrounding community that the respondents obtained so that they are motivated to stay enthusiastic about the health conditions they are facing.

Family support is a support system provided by the family to family members who are sick by giving advice, providing a sense of security and comfort and real help to solve problems, pay for treatment, support information and services, and facilitate family members in making social contact with family member community (Octaviani, 2013). In general, environmental support is defined as the help and support that a person gets from his interactions with other people (Maslihah, 2011: 106). Support arises from the perception that there are people who will help if a situation or event occurs that is seen as causing problems and that assistance is felt to increase positive feelings and raise self-esteem.

Most of the respondents received support from family, close friends and the surrounding community, but there were still some respondents

with less family support. The results of the study are in line with the research of Surya and Guspa (2021) which states there is a significant positive effect between social support and stress. Changes in conditions due to the Covid-19 pandemic have occurred in all groups of people, such as students, traders, health workers, employees, and others. These change causes many new demands that must be carried out by each individual for survival. These demands have an impact on a person's mental health and often cause stress. Social support can help in dealing with tension caused by stress.

The results showed that most of the respondents with socio-cultural category that is sufficient is 143 (75.7%). Socio-cultural what happens is that there are still many people do not care about the existence of Covid-19 and there are still many people who do not comply with health protocols, this triggers stress in pulmonary TB patients. The results of statistical tests show that socio-culture is related to the incidence of stress in pulmonary TB patients during the Covid-19 pandemic with p-value < 0.05. Community trust and concernis an important aspect in the continuity of health care. Trust and caring provide ample access to various resources, and a network of high trust will function more smoothly and easily than one with low trust.

Stress is experienced by family members who are sick and who died due to Covid-19. Health protocols that must be adhered to cause special pressures for sufferers and their families who cannot take care of them directly. Likewise, families who die due to the corona virus will get their own pressure from the surrounding environment, because they are worried about being infected. The transmission of Covid-19 has no age limit, but people who are older and vulnerable to comorbidities including asthma, diabetes mellitus, tuberculosis, hypertension have a higher risk.

In dealing with the Covid-19 outbreak, it is very necessary to have the participation of the community in synergy with the government, so that it can break the chain of the spread of Covid-19. The attitude of the community in responding to every government policy in breaking the chain of spread and transmission of

Covid-19 is also very important. The public must have a positive attitude in dealing with the

Covid-19 pandemic so as to reduce the risk of contracting Covid-19. The role of the community is very important in motivating people who are more vulnerable so that transmission can be prevented and reduce stress in these vulnerable communities.

CONCLUSION

The conclusions of this study are: There is a significant relationship between age, gender, knowledge, socio-culture and environment with the incidence of stress in pulmonary TB patients during the Covid-19 pandemic. Education, work and sources of information are not factors related to the incidence of stress in pulmonary TB patients during the Covid-19 pandemic. Gender, environment and age are the factors with the strongest relationship with the incidence of stress in pulmonary TB patients during the Covid-19 pandemic.

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