Family Support and Coping Mechanisms in Patients with Pulmonary Tuberculosis

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Abstract: Pulmonary tuberculosis is a stressor for patients, which shows coping mechanism that are adaptive or maladaptive. One of the sources of coping mechanisms is social support, including instrumental, informational, and emotional support. This study aims to analyze the correlation between family support and coping mechanisms of patients with pulmonary tuberculosis. This study used a cross-sectional design. The population comprised of patients with pulmonary tuberculosis in intensive phase treatment and continuous phase treatment categories one and two at the TB Polyclinic. The sample comprised of 110 respondents based on the inclusion criteria. The independent variable was family support and the dependent variable was the coping mechanism. Data were collected through questionnaires and analyzed using the Spearman Rho statistical test. There is a correlation between family support and pulmonary tuberculosis patients' coping mechanisms. The Spearman Rho test results were obtained at $p = 0.000$ and the correlation coefficient $r = 0.377$. This means there was positive correlation between family support and coping mechanisms, but the power of correlation was weak. Patients with pulmonary tuberculosis are dominated by good family support. The coping mechanisms of respondents is adaptive. Health institutions and health workers should optimize family support to increase patients' coping mechanisms.

1 BACKGROUND

Pulmonary tuberculosis is a disease that requires serious treatment. Tuberculosis is still a health problem for people in the world, although many countries have made efforts to overcome this since 1995 (Regulation of the Minister of Health of the Republic of Indonesia No. 67 of 2016 on Tuberculosis Control). Pulmonary tuberculosis is a chronic disease and patients with chronic illnesses feel a loss of health, independence, productivity, and self-fulfillment (Yusuf et al., 2015). Patients diagnosed with pulmonary tuberculosis often experience stigma from the community, even from their family who are a source of coping, thus affecting the patient's coping mechanisms (Azizah et al., 2016). There is a relationship between family support and stress (Nursalam, 2009) and poor family support increases stress. Stigma in patients with pulmonary tuberculosis is an important social determinant of health (Craig et al., 2017). In addition to the stigma of the community, many people with pulmonary tuberculosis experience stress, depression, and anxiety problems. This is caused by many factors felt by people with pulmonary tuberculosis. One of these is a poor coping mechanism in response to the stressors they are faced with. Poor coping mechanisms can be caused by poor family support in patients with pulmonary tuberculosis.

Coping is a psychological adaptation to stress and serious life events (Scheenen et al., 2017). The better the coping strategies that are used to respond to stressors, the smaller the risk of stress, conversely when coping mechanisms used are maladaptive, the risk of stress is higher. Maladaptive coping is associated with increased stress (Deshmukh et al., 2017). Psychological disorders of stress, depression, and anxiety experienced by tuberculosis patients are a manifestation of the maladaptive coping mechanisms, impacting on their physical health.

Based on the results of interviews with patients with pulmonary tuberculosis in the government pulmonary hospital, it can be concluded that patients feel burdened and anxious because of pulmonary tuberculosis. Family support varies; some have good family support, and some have poor family support. The patients' adaptation responses to their tuberculosis disease varies.

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Pulmonary tuberculosis sufferers have various health problems, not only physical but also psychological. Problems in the psychological aspect are the emergence of stress, depression, and anxiety because of poor coping mechanisms in patients with pulmonary tuberculosis. Based on research conducted by Muhammad Anugrah and Mokhammad Arifin (2016), who conducted research on anxiety in patients with pulmonary tuberculosis in Kedungwuni Regency Pekalongan, 34 samples were obtained, and the results indicated that 18 people (52.9%) experiencing mild anxiety, 11 people (32.4%) experienced moderate anxiety, and the remaining five people (14.7%) experienced severe anxiety. The results of the study by Atif et al. (2014) indicated that 67.1% of 336 respondents were at risk of depression at the beginning of tuberculosis treatment. The data of stress, depression, and anxiety events in patients with pulmonary tuberculosis were also obtained by stress measurement, depression, and anxiety. Research intervention by Suryani et al. (2011) indicated that 64.9% people experienced stress, anxiety, and mild depression, while 35.1% suffered from moderate depression.

Increased pulmonary tuberculosis in patients is a challenge, not only for health workers in health agencies, but also for the community. Appropriate management will reduce the risk of the transmission of pulmonary tuberculosis and will certainly improve the quality of life for patients with pulmonary tuberculosis. Having pulmonary tuberculosis causes a loss of health and as a predisposing factor in the biology of the emergence of stress in the individual, will result in the formation of coping mechanisms.

For individuals experiencing stress, coping mechanisms that emerge can come from various sources of coping, including social support (Yusuf et al., 2015). One form of social support is the support of families. Each family has resources to look after family members faced with health problems (Friedman et al., 2010). In addition, family and community members' support, including peers, is an important factor influencing treatment compliance positively, as a form of positive coping mechanisms in patients with pulmonary tuberculosis (Deshmukh et al., 2017).

2 METHODS

2.1 Design

This study was conducted using a cross-sectional approach. The research aimed to analyze the relationship between independent and dependent variables. The independent variable in this study is family support. The dependent variable in this research is the coping mechanism.

2.2 Sample

The population in this study were pulmonary tuberculosis patients in the government pulmonary hospital intensive and advanced treatment phase, categories 1 and 2. The sampling technique used was consecutive sampling, which was conducted by criticizing the sample using inclusion and exclusion criteria. The sample size in this study comprised of 110 pulmonary tuberculosis patients at the government pulmonary hospital in the intensive and advanced treatment phase of category 1 and 2, according to the inclusion criteria.

2.3 Data Collection

Data were collected using an instrument in the form of a questionnaire that had been tested for validity and reliability by previous researchers; hence, it was not necessary to test validity and reliability in this study. The questionnaire related to family support and included emotional, instrumental and informational supports, measuring respondents' coping mechanisms using a Brief Cope scale. Data were analyzed using the Spearman Rho statistical test to determine the correlation between variables.

2.4 Ethical Clearance

This study received a certificate of ethical clearance from the Faculty of Nursing Universitas Airlangga No. 572/KEPK.

3 RESULTS

Based on Table 1, the number of respondents was 110 people with a majority of 59 (53.6%) females. The largest number of respondents were aged 21–30 years, comprising of 30 people (27.3%); only one respondent was aged 71–80 years. The level of the education of respondents was dominated by elementary school graduates (SD)/equivalent and senior high school (SMA)/equivalent with the same number of 35 people or 31.8% in each group. Most respondents were married (79 people or 71.8%), 37 respondents (33.6%) were housewives, and just three respondents worked as Civil Servants (PNS). There

were just two religions followed by the respondents, and Islam is the religion most widely embraced by the respondents with 107 respondents (97.3%).

Table 2 shows the frequency of respondents in the treatment phases of pulmonary tuberculosis. Table 2 indicates that the number of respondents who are in the intensive phase of treatments is lower than those respondents who are in the phase of follow-up treatment at 49 respondents or 44.5%.

Table 3 indicates that good family support is obtained by most research respondents with 109 respondents or 99.1% of the 110. Table 4 indicates that adaptive coping mechanisms are widely used by the respondents with 94 respondents or 85.5%.

Table 1: Demographic characteristics of respondents.

Characteristic	Indicators	f (x)	%
Age (years old)	18–20	13	11.8
	21–30	30	27.3
	31–40	21	19.1
	41–50	27	24.5
	51–60	13	11.8
	61–70	5	4.5
	71–80	1	0.1
	Total	110	100
Education	Not passed	6	5.5
	Elementary	53	48.2
	Junior high	35	31.8
	Senior high	16	14.5
	Total	110	100
Gender	Male	51	46.4
	Female	59	53.6
	Total	110	100
Marital status	Married	79	71.8
	Single	20	18.2
	Widow/er	11	10
	Total	110	100
Occupation	Gov. staff	3	2.7
	Private staff	26	23.6
	Housewife	37	33.6
	Laborer	18	16.4
	Unemployment	18	16.4
	Others	8	7.3
	Total	110	100
Religion	Moslem	107	97.3
	Christian	3	2.7
	Total	110	100

Table 5 indicates that one respondent has less family support and adaptive coping mechanisms and there are 16 respondents with good family support, but maladaptive coping mechanisms. Data were analyzed using the Spearman Rho test, in relation to family support relationships with coping mechanisms of pulmonary tuberculosis patients at the Government Pulmonary Hospital, with the result $p = 0.000$. The p-value is below the p-value of 0.05 meaning H0 is rejected and H1 is accepted; this means there is a relationship between family support and coping mechanisms with a weak strength of 0.377.

4 DISCUSSION

Family support is divided into instrumental support, informational support, and emotional support (Friedman et al., 2010). The support received by the study respondents generally indicates good family support from all three aspects. This is due to the implementation of family duties in the field of health, providing care to members of the family who are sick. Setiadi (2008) suggests that families can take care measures as well as make efforts to obtain follow-up actions to prevent worsening health problems. Family support given directly to the respondents has a positive impact. This is in line with work by Sabine Trepte et al. (2015) who state that emotional, instrumental, and informational support given offline is better than support given online.

Family support received by respondents comes from the support of nuclear families who live in one house, who understand the healthy development of respondents and generally provide support in the forms of informational support, instrumental and emotional support. Informational support from the family will increase the respondents knowledge of pulmonary tuberculosis. Good knowledge will improve the coping mechanisms of respondents. This is in line with research conducted by Indah Ramadhan et al. (2013) who suggest that there is a significant relationship between the level of knowledge and coping mechanisms.

The emotional support that is part of the support of the family, includes loving support, understanding, and attention and will create calm in the psychological aspect of the respondent directly related to coping mechanisms. A person who gets good emotional support will reduce the stigma of self and increase self-esteem. The research by Peng Wei et al. (2016) shows that family support has a moderate effect on the respondents' self-esteem, while Mega Arianti et al. (2016) mentions that high self-stigma is

Table 2: Frequency of respondents in the phase of treatment of pulmonary tuberculosis.

Phase	f	%
Intensive	49	44.5
Continued	61	55.5
Total	110	100

Table 3: Family support and coping mechanisms of patients with pulmonary tuberculosis.

Family support	f	%
High	109	99.1
Less	1	0.9
Total	110	100

Table 4. Coping mechanisms of patients with pulmonary tuberculosis.

Coping mechanism	f	%
Adaptive	94	85.5
Maladaptive	16	14.5
Total	110	100

Table 5. The relationship of family support with the coping mechanisms of patients with pulmonary tuberculosis.

Variable	Family support				Total	
	Less		High			
Coping Mec	f	%	f	%	f	%
Maladaptive	0	0	16	14.5	16	16.5
Adaptive	1	0.9	93	84.5	94	85.5
Total	1	0.9	109	99.1	110	100
(p) 0.000 (r) 0.377						

due to a lack of knowledge and support from the family. Erin K. Truong et al. (2015) mentions that the quality of life of respondents, who are not stressed by the stigma, showed better results because the mechanism of the coping formed is positive. Increased self-esteem and decreased self-stigma due to positive family support will make a person feel confident and able to use adaptive coping mechanisms, broadly influencing the quality of life.

Family support is very important for supporting respondents in adapting to stressors, as patients with pulmonary tuberculosis. Good family support will elicit a positive response from the responder so they are calmer and able to adapt well. Eventually, they will have an impact on improving pulmonary tuberculosis patients' quality of life. This is in accordance with research by Deshmukh et al. 2017 who suggest that family support affects the resilience of individuals who experience anxiety due to stressors. Family support also deals with self-esteem and quality of life. Chia-Chun Li et al. (2015) state that respondents with low self-esteem and low family support tend to have a lower quality of life compared to respondents with low self-esteem but high social support.

Most respondents use an adaptive coping mechanism but there are some respondent who have a maladaptive coping mechanism. The adaptive coping mechanisms that most respondents use in facing their stressors are activities such as praying or meditating when experiencing problems; respondents take action or steps to try to make the problem better and are looking for good or wisdom in the problem. The respondents with adaptive coping mechanisms are natural and learn to live with problems they are experiencing as well as accepting the problem they face.

The coping mechanism used by the research respondents showed different results; most respondents used adaptive coping mechanisms and a small percentage of respondents used maladaptive coping mechanisms. Different coping responses in each individual are influenced by how individuals perceive stressful events; coping does not necessarily lead to solving problems faced by individuals (Azizah, et al., 2016). Coping mechanisms are dynamic, so, according to various factors influencing the selected coping mechanisms, human behavior is always dynamic (Yusuf et al., 2015).

Pulmonary tuberculosis and its impact on life aspects is a stressor that affects respondents', their family, and other aspects of their lives. The coping mechanism used by respondents clearly differs because it depends on how individuals perceive the stressors they are facing; they are influenced by various factors, so even if the same stressors and its impact on the aspects of life apply, the perceptions and the supporting factors of the emergence of coping mechanisms on each respondent vary, which means that the coping mechanisms used in adapting to stressors also vary.

A coping mechanism that is widely used by the respondents in this study is the adaptive coping mechanism. The results of this study indicates that most research respondents can adapt to the stressors they face. Good adaptation to stressors will affect the respondents' psychological responses as well as emotional disturbances; individuals with good coping mechanisms will calmly respond to stressors and improve their resilience. This is in line with research by Okafor et al. (2016) who suggest that active coping behavior is associated with increased resilience.

The results of the data analysis indicate that there is a relationship between family support and coping mechanisms in patients with pulmonary tuberculosis. Some respondents have less family support but have

adaptive coping mechanisms. Some respondents have good family support but use a maladaptive coping mechanism. Facing stressors, such as suffering from pulmonary tuberculosis and its effects, will certainly cause psychological disturbances, especially for the sufferer. Individuals who deal with stressors are perceived to suppress their desire to seek the resources they need, such as economy, time, family social support, and other resources to help them deal with it (Azizah et al., 2016).

Family support is required by the patient to help them deal with problems well. Family support is a social support experienced by family members who are ready to provide help and assistance whenever it is needed (Friedman et al., 2010). Family support is comprised of three forms of support, helping the patient with pulmonary tuberculosis in adapting to the problem. This appropriates facilities, information, and attention of the family, to elicit good coping mechanisms or adaptive coping mechanisms in response to the stressors.

Family support is a resource that can generate physical and psychological comfort for an individual. Family support provides a positive aspect for family members who receive support (Azizah et al., 2016). Family is a source of coping mechanism for individuals in the face of stressors or problems they face (Azizah et al., 2016). Good family support to family members who are experiencing health problems in this study has a positive impact in the form of positive or adaptive coping mechanisms of patients in response to stressors.

Family support is not the only source of coping mechanisms. There are many other factors that influence and become a source of coping mechanism. The results of a study showing a family support relationship with coping mechanisms indicates that family support influences an individual to choose the coping mechanism they use to respond to stressors, whether adaptive or maladaptive coping mechanisms are emerging. Individuals can adapt well to problems they face with the family support they receive from family members.

The existence of family support relationships with coping mechanisms in patients with pulmonary tuberculosis is in line with the study of Das et al. (2017) who believe that individuals who receive family and friends' support show good coping mechanisms that are adaptive and resilient. Nursalam et al. (2009) state that family support can reduce stress. The better the support given to family members who are experiencing psychological disorders, such as stress, the more the stress is reduced. Research conducted by Tintin et al. (2016) indicates that family support can improve psychological responses to individuals when facing problems. Psychological disorders including stress, anxiety, and depression are closely related to coping mechanisms. The maladaptive coping mechanism leads to psychological disorders; an adaptive coping mechanism will prompt an individual to respond to the stressor positive. One source of individual coping mechanisms, whether adaptive or maladaptive, is the social support they receive from their family.

5 CONCLUSIONS

Family support is related to coping mechanisms. Patients with pulmonary tuberculosis are dominated by good family support. The coping mechanisms of respondents is adaptive. Health institutions and health workers should optimize family support to increase patients' coping mechanisms.

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