

Perception and Self Care Behavior of Tuberculosis Patients Based on Leventhal Theory

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Abstract: Tuberculosis (TB) is an infectious disease, caused by *Mycobacterium tuberculosis* and mostly it will attack the lung. Based on Leventhal theory the person's beliefs or perception were influenced by basic understanding about his disease, than the perception will lead person's behavior. However, this case was common among TB patients. The aim this study was to know the perception and behavior of self-care of tuberculosis Patients based on Leventhal theory. This study used a descriptive research design. The population of this study was tuberculosis patients who are getting treatment at Primary Health Care Center in Jombang. About 50 respondents were selected by using simple random sampling. The data were collected by using questionnaire. The data were collected by questionnaire. The results of the study showed that the majority of respondents are male (72%) and almost half of those aged 26-45 years old (40%). More than half of the participants working as private employment (62%) and less than half of those hold elementary school level (38%). However, almost half of the participants still have negative perception about TB (46%), and half of those were lack of self-care of TB (50%). From this study, we can concluded that clear and right information regarding TB disease was importance because the good knowledge will be influence perceptions and self-care behaviour among TB patients.

1 BACKGROUND

Tuberculosis (TB) is a disease of lung infection caused by *Mycobacterium tuberculosis*. World Health Organization (WHO) estimates that one third of the world's population is infected by *Mycobacterium tuberculosis* and 10% of them are at risk for illness. In 2012 there were 8.6 million cases and 1.3 million died caused by the disease. The biggest number of new cases occur in Asia (WHO, 2014).

However, if the TB disease untreated or uncompleted treatment, it will give dangerous complications, such as disfunction of liver, kidney, hearth and also can dead (Kemenkes RI, 2016). Indonesia is second ranking countries with the highest TB burden in the world and East Java was the biggest province with TB cases, in 2013 about 101.82 per 100,000 people were infected TB and 1.83 per 100,000 the patients were died caused by TB (Dinkes Jatim, 2014).

According to Jombang's Public Health Service, in 2016, TB cases were found at 1,327 cases, the number of new cases in 2017 in first quarter at 319,

second at 330, the third quarter as 372 cases so at the moment TB cases in Jombang 1,021 cases new TB. The report TB act in 2016 in Jombang to the target number of 1,335 cases, the value of the achievements of 645 cases with a cure rate of 593 or 91.9%, of the total patients who underwent treatment (Dinkes Jombang, 2017).

Moreover, with interview method, head of Jombang TB was mentioned that in October 2017 many TB patients were dropped from medication program in Health Care Center (PHC) and do irregular TB treatment, this because some factors such as the patients feels getting better after take some medicine, very bussy for working so no have time to go to PHC, bored to consuming medicine, lack of motivation and weak behavior to prevent or transmitted their disease. This also was related with the data that not 100% of completed medication program of TB.

Tuberculosis (TB) is a disease with a high risk of transmission. One of the determinants of successful management of tuberculosis treatment is patient adherence to therapy. Non-compliance will lead to treatment failure and relapse, so it appears resistance

and continuous transmission of the disease. This can increase the risk of morbidity, mortality and drug resistance in patients and the community at large. Consequences of non-compliance with the long-term treatment is deteriorating health and increased maintenance treatment costs (WHO, 2013). Disobedience treatment pulmonary of tuberculosis patients causes people with low cure rate, high mortality and recurrence increased and more fatal is the occurrence of bacteria resistant to several anti-tuberculosis drug or multi-drug Resistance, so that pulmonary tuberculosis disease is very difficult to cure (Kemenkes RI, 2015).

The theory developed by Leventhal, illness or illness perception representation determine a person votes against disease and healthy behaviors that accompany it (Aflakseir, 2013). Moreover, Morris (2001), explained that cognitive and emotional will affect coping of person. Illness perception that will be used as a predictor in this study consisted of acute chronic aspects of the timeline, timeline cyclical, personal control, treatment control, illness coherence, emotional representation.

Independent management and follow-up care at home which is done by patients with chronic diseases is the key in a comprehensive disease management (Egwaga et al., 2009). Pulmonary of tuberculosis done by patients in the treatment and compliance is obtained if the individual has the knowledge, skills and self-care behaviour in managing TB and self-care at home. According Wongsonton (2000), self-care behaviour of TB patients include: 1) medical adherence, 2) prevention of transmission, 3) compliance with nutrition.

The purpose of this study was to know the perceptions and self-care behaviours tuberculosis patients based on Leventhal theory.

2 METHODS

The design of this research is quantitative with descriptive research design. Independent variable in this study was self-regulation and dependent variable is perception and self-care behavior. The population of this study was tuberculosis patients who are getting treatment at Primary Health Care Center in Jombang district. The inclusion criteria: new patients of pulmonary tuberculosis in the intensive stage treatment (<2 months), can read and write, cooperative. The exclusion criteria is a patient of tuberculosis with complications that require further treatment at the hospital. The sample in this

are 50 respondents using simple random sampling and the instrument using questionnaire.

Questionnaire perception from Morris (2001) and self-care behavior from Sukartini study (2014), and have validity and reliability test with $r > 0,619$. This research was approved ethical board at Faculty of Nursing Airlangga on 29 January 2018. Data were analysed by using univariate test.

3 RESULTS

3.1 Characteristic of Respondent

The following table were describes characteristic of respondent:

Table 1: Description of the contents of tuberculosis patients in January - February 2018.

Characteristics of respondents	Frequency	Percentage (%)
Gender		
Male	36	72
Female	14	28
Number	50	100
Age		
17-25 Years	6	12
26-45 Years	20	40
46-65 Years	17	34
> 65Years	7	14
Number	50	100
Education level		
not school	8	16
Elementary school	19	38
Primary school	9	18
Senior high school	11	22
University	3	6
Number	50	100
Employment		
Not working	5	10
TNI/POLRI/PNS	1	2
Private	31	62
self -business	1	2
Other	12	24
Number	50	100

Gender respondents mostly male 36 people (72%). Almost half of respondents aged 26-45 years as many as 20 people (40%) and a small proportion of respondents aged 17-25 years as many as 6 people (12%). While Almost half of the respondents had elementary education were 19 (38%) and a fraction

as much as 3 college educated respondents (6%). Works most of the private respondents as many as 31 people (62%) and a small part of the work of civil servants sebnayak 1 (2%).

3.2 Perceptions of Disease

The following table describes the perception relating tuberculosis disease:

Table 2: Description of the perception of tuberculosis disease in January - February 2018.

Characteristics of respondents	Frequency	Percentage (%)
Negative	23	46
Positive	27	54

Based on table 2, found that more than half of the participants 27 (54%) had positive perception about tuberculosis disease and about 23 (46%) of participants had negative perception relating TB disease.

3.3 Self-Care Behaviours

The following table describes self-care behaviors relating TB disease:

Table 3: Description of behaviour of tuberculosis in January - February 2018.

Characteristics of respondents	Frequency	Percentage (%)
Less (28-37)	25	50
Medium(38-47)	18	36
Good (48-56)	7	14

Based on table 3, found that only 7 (14%) of the participants had good self-care behavior and half of the participants (50%) had less self-care behavior relating TB disease.

4 DISCUSSION

Results of research showed that almost half of respondents aged 26-45 years 20 people (40%) and only 6 (12%) aged 17-25 years old. This results was related also with other research, it was mentioned that TB patients were attack in productive middle age (Hayati, 2011). The same thing happened in 2005 where cases of pulmonary TB in Indonesia is more common in childbearing age because in the productive age people tend to have a high mobility so it is likely to be exposed to TB germs bigger

(Ariel, 2002), besides adults are better able to prevent the spread of blood-borne diseases, but the ability to prevent lung disease on the wane in the (Bam, 2006).

The results are consistent with previous studies which stated that the age group of patients with pulmonary tuberculosis are in the productive age group. Results of research conducted by Puspita (2016), For most age in patients with pulmonary tuberculosis is of childbearing age (18-55) in 60 people (84.5%). Results of research conducted by Arsin (2016), the largest age group are in the productive age group of 25-44 years 56 people (49.6%), while the age group > 64, 3 people (2.7%). Another study conducted by Yunita Rahmawati 2009 in Surabaya obtained the highest number of patients with pulmonary tuberculosis 43.25% were in the age group 15-30 years. Later studies conducted by Freddy in 2010 in his research note were 35 (77.8%) are in the productive middle age (18-59 years).

This study is also consistent with the statement Depkes RI 2014, Tuberculosis control national guidelines which state that as many as 75% of individuals infected with TB germs are in the productive age group (15-50 years). This is probably due to the productive age group of patients would spend more time outside the home to work and interact with others. The risk of exposure becomes greater because of the possibility of contact with people suffering from pulmonary tuberculosis are becoming more frequent.

The results also have shown that a large majority of respondents Gender male 36 people (72%). This is similar to research Pant (2009), which states that 70% of patients with pulmonary TB are male. The high number of male patients allows transmission spacious. This is because the group of men mostly out of the house for a living, with a frequency out of the house that allows the transmission of diseases of pulmonary TB, 17 high mobility of the women that are more likely, but it is the habit of smoking and alcohol consumption in men can lower immunity so easily affected by pulmonary tuberculosis.

Results were consistent with reports Department of Gender and Women's Health World Health Organization (WHO) states that the incidence and prevalence of tuberculosis is more common in the male gender of women. And globally there are more than 70% of men with positive smear compared to women (Lestari, 2004).

The results also have shown that nearly half of respondents had elementary education were 19 (38%) and a fraction as much as 3 college educated

respondents (6%). Similar to the study conducted Dwipayanti (2014), that a low educational background and the patient did not work, patients who have a low educational background will affect the ability of diabetic patients in the management of information.

The level of formal education is the foundation of someone in doing something, create a better understanding and grasp something, or accept and reject anything. The level of formal education also allows the distinction of knowledge and decision-making. Based on the research mostly non-compliant tuberculosis treatment is a patient with low education. This proves that indeed one's education level will affect the person's knowledge, such as recognizing a qualified home health and pulmonary TB disease knowledge, so that with enough knowledge then someone will try to have a clean and healthy lifestyle behaviors (Pratomo, 2012).

The results of the same study proposed by Yang, et al. (2001), which revealed that knowledge is one of the factors daily self care support (self care behavior). Because with knowledge enough, someone will understand physical condition and are expected to show self care behavior good to support the efforts in maintaining health.

The study's findings are consistent with the results of Health Research (Risksdas) in 2007, which found a prevalence of pulmonary tuberculosis is four times higher among lower education than higher education (Rukmini, 2011). Education affects a person in receipt of health information. Through education, an individual can understand more about the disease. Level of education plays an important role in public health. The higher the education level, the higher the ability to receive health information.

Another factors were influence is the respondents' knowledge level of education. The higher education, one will easily accept new things and easily adapt to the new one (Notoatmodjo, 2012). In this study, in addition to educational factors that can affect the majority of the respondents' knowledge was influenced by information received both formally and informally. According Notoatmodjo (2012), information influence on a person's knowledge. Even though a person has a low level, but if you get good information from a variety of media such as a TV, radio, books, or newspapers and it will be able to improve one's knowledge. Facilities for obtaining information may help expedite a person to acquire new knowledge. The results support the research Nasirudin (2014), which examines the relationship

between the level of knowledge and attitude to the behavior of the prevention of transmission of tuberculosis (TB) with the number of respondents 27 people most of the respondents have good knowledge of as many as 17 people (63.0%).

Individual higher education will cause the individual has a great ability to manage information. In addition to setting the upper middle belakanag individual will have the ability to access the information more widely. Information obtained through the right patient megetahui impact it will have if it does not do a good TB management impact on your personal life and social impact. So that it can improve the perception and self-care behaviors that underlie the behavior of the management of tuberculosis.

That means not in line with the theory of Bandura (1997) states that older individuals tend to have a span of time and more experience in dealing with a matter that occurred when compared with younger individuals, which may still be a bit of experience and a variety of events in his life. Older individuals will be better able to overcome the obstacles in his life than the experience that individuals have a long life span. But in this study showed a younger age better perception of the disease and its behavior.

Although tuberculosis has more experience in the management of the disease, if not supported by an adequate educational background eat will affect the behavior of patients in solving problems regarding the disease.

The results also have shown that most of the respondents private employment of 31 people (62%) and a small part of the work of civil servants by 1 person (2%).

This is likely due to the work environment, as noted previously often interact with others can affect the rate of transmission. So the risk of exposure to the bacteria mycobacterium tuberculosis bigger (Hartono, 2012). According to the WHO report of 2003 as much as 90% of the world's tuberculosis patient infects socioeconomic groups with weak or poor. The relationship between poverty and tuberculosis are reciprocal, tuberculosis is the cause of poverty and poverty then the man had tuberculosis (Rukmini, 2011).

Perceptions of disease tuberculosis big sebgain positive perception many as 27 people (54%). This study is in line with the Dwipayanti (2014), when patients who have a low educational background will affect the ability of diabetic patients in the management of information, it causes disease

patients perceive the negative impact on bad behavior.

The results also have shown that self-care behaviours in patients with tuberculosis half the respondents behaved less as many as 25 people (50%) and a small well behaved as many as 7 people (14%).

According to researchers the value of self-care behavior can be influenced by education level and occupation of individuals, these factors will affect one's understanding of the management of information, and to access information about their illness. Younger clients have better cognitive abilities of people who are older, they have an adequate understanding of the self-treatment of tuberculosis (self care behavior) and the benefits of self-care in their daily lives. This is not in line with statement of Orem (2001), which revealed that the self-care behaviors will increase effective with age and ability. Increasing age, diminishing reliance on self-care behavior and increasingly self sufficient in the health maintenance efforts.

In research self-care behavior (prevention of transmission, drug adherence, and nutrition). Nutrition is not a factor that causes the occurrence of tuberculosis, but the status is closely related to one's immune system. When the immune system declines then someone will be easily contracted tuberculosis, preferably if the immune system in good condition it will be helpful in the healing process with a minimum time (6 months). Increased nutrition is highly recommended and adds to the belief of the respondents that good nutrition can have a positive impact on the treatment process.

Nurses play an important role in changing the behavior of patients and families, resulting in balance and independence in self-care activities. Orem (1971) in Tomey & Alligood (2010), has the view that everyone has the ability to fulfill its basic independently. Nurses are agents who are able to assist clients in returning their role as self care agency. Nurses as educators and counselors can provide assistance in the form of a supportive-educative system, aimed at improving the ability of the patient in performing self-care and medication adherence. Patient compliance with TB treatment is essential for effective transmission control. Treatment compliance is a complex problem involving the health care system, the process of care, the behavior of health personnel and the quality of its communication with the patient, the attitude of the community, and the behavior of the patient itself (Jakubowiak et al., 2008).

Advanced and self-care at home by families with chronic diseases is a key to comprehensive disease management (Egwaga et al., 2009). Self-reliance and treatment compliance occur when individuals have the knowledge, skills, and self-efficacy to perform TB management behaviors and home care. The results of Lewis and Newell's (2009) study indicate that improving communication between healthcare providers and patients, individual empowerment, and patient knowledge and understanding of treatment programs can increase TB patients' self-efficacy in care and treatment. The results of the Kholifah et al (2012) study concluded that the application of the Adaptive Conservation Model can increase the knowledge of patients with TB and family, increase the support of families, groups and communities in patients with pulmonary tuberculosis, nurse support on TB Lung treatment compliance, and improve TB treatment adherence Lungs.

5 CONCLUSIONS

Tuberculosis can occur at any age, gender, education level, and any work. Perception is one's judgment against the disease, when tuberculosis patients have a positive perception of the patient is expected to have a good behaviour in preventing transmission, compliance with nutrition and medication adherence, so that the treatment of OAT in patients with tuberculosis successfully.

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