

# The Impact of Social Factor on Decision Making in TB Patients: An Approach to Consumer Behavior in Health Sector

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## The Impact of Social Factor on Decision Making in TB Patients: An Approach to Consumer Behavior in Health Sector

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### ABSTRACT

8 Tuberculosis is commonly shortened to TB is still a health problem throughout the world, including in Indonesia. Treatment loss rate (loss to follow-up) treatment of pulmonary TB nationally is estimated to be high, this is very dangerous because treatment that is done irregularly will have a worse effect than not done at all. Treatment loss (loss to follow-up) treatment TB in Pasuruan district is 3.50%, although it does not exceed the national target of > 10%, it should not be ignored, because there are several Public health centers with loss to follow-up treatment for TB treatment > 10% in two consecutive years. This study aims to analyze the factors that influence the decision making of TB treatment which is the cause of the drop out of treatment. This study was a cross sectional study conducted in 4 Public health centers in Pasuruan, namely Bangil Health Center, Pandaan Health Center, Gempol Health Center, and Kejayan Health Center with a sample size of 66 TB patients. Data analysis using multiple logistic regression. Based on the results of the study it was found that social factors that influence decision making were only family members ( $p = 0.037$ , Exp B = 4.558). Whereas other social factors, namely the reference group and leader opinion, have no effect with  $p = 0.813$  and  $p = 0.939$ . Therefore, the role of family members should be carried out on the grounds of being more trustworthy, in addition to the closeness of the emotional relationship that greatly affects TB patients.

**Keywords:** TB, loss to follow up, social factors, decision making

### INTRODUCTION

#### Background

8 Tuberculosis is commonly shortened to TB or tuberculosis is still a health problem throughout the world, including in Indonesia. Even though it only has a population of around 261 million, Indonesia ranks second in the world in the number of TB cases, both in the total number of cases and new cases. This disease is a major threat to the development of human resources so that it needs to get more serious attention from all parties. According to the WHO Global Tuberculosis Report (2016), the estimated incidence of tuberculosis in Indonesia in 2015 was 395 cases / 100,000 population and the mortality rate was 40/100,000 population (HIV patients with tuberculosis were not counted) and 10/100,000 population in HIV patients with tuberculosis<sup>(1)</sup>. According to the prediction model calculation based on the 2013-2014 tuberculosis prevalence survey data, the estimated tuberculosis prevalence in 2015 was 643 per 100,000 population and the estimated tuberculosis prevalence in 2016 was 628 per 100,000 population<sup>(2)</sup>.

In 2016 there were 351,893 cases of tuberculosis, an increase compared to all cases of tuberculosis found in 2015 which amounted to 330,729 cases. The highest number of cases reported were in provinces with a large

population, namely West Java, East Java and Central Java. Tuberculosis cases in these three provinces amount to 44% of the total number of new cases in Indonesia<sup>(2)</sup>.

Tuberculosis deaths are estimated at 1.4 million deaths plus 0.4 million deaths from tuberculosis in people with HIV. Although the number of deaths from tuberculosis decreased by 22% between 2000 and 2015, tuberculosis remains the 10 highest cause of death in the world in 2015<sup>(1)</sup>. The drop out rate (loss to follow up) treatment of pulmonary tuberculosis nationally is estimated to be high, this is very dangerous because treatment that is done irregularly will have a worse effect than not done at all. For people with pulmonary tuberculosis, they should be regularly treated so that treatment failure does not occur which results in the emergence of drug resistance, decreased cure rates, increased mortality and active transmission sources<sup>(2)</sup>.

Treatment loss (loss to follow-up) TB treatment in Pasuruan district is 3.50%, although it does not exceed the national target of >10%, it should not be ignored, because there are several health centers where treatment withdrawal (loss to follow-up) for TB treatment >10% in two consecutive years. Treatment withdrawal treatment for tuberculosis in Pasuruan district from 2014 to 2017 is still a number of Public health center with a loss to follow-up rate of >10%, there is even a Public health center that for two consecutive years the loss to follow-up incidence is >10%. Based on the data in 2017 and the Health Centers that were found to drop out of treatment (loss to follow up) treatment of pulmonary tuberculosis >10%.

Treatment of tuberculosis that takes a long time can cause the patient to feel bored taking medication while the drug must be taken for six months. Patients who have received OAT (Anti Tuberculosis Medication) if stopping their treatment before completing the treatment period will result in resistance to OAT and increase the spread of the disease. If someone has suffered from drug resistance, the medical costs incurred will be greater and the treatment time will be longer. Breaking treatment results in a decrease in cure rates, increasing mortality and sources of active transmission<sup>(2)</sup>. Public health center as providers of TB DOTS must anticipate this by providing continuous communication, information, and education (KIE) to patients. In addition to the provision of KIE, Public health center must also optimize the role of Drugs and Drugs Supervisors (PMO) and know the behavior of patients in the treatment of tuberculosis.

Patients as consumers in health services have behavior that can be assumed as consumers in other services so that the study of consumer behavior of health services needs to be done so that health facilities are able to understand consumer behavior in the target market.

### Purpose

Based on the background of the problem, the research is expected to be able to find out the impact or influence of social factors that influence the decision making of TB patients while doing TB treatment at the public health center. Decision-making in TB treatment in these patients is very influential on the drop-out event (loss to follow-up) which is still a national problem.

### METHODS

This research was analytical observational. This study was included in this type of observational research. Research was a research with cross sectional research design. The population used in this study were TB patients who treated the DOTS TB program in 4 Public health centers in Pasuruan district based on a combination of the highest percentage of loss to follow-up and the highest number of tuberculosis patients in 2017 in Pasuruan district, Bangil Health Center, Pandaan Health Center, Gempol Health Center and Kejayan Health Center. The sample size was 66 patients. So this study was conducted in 4 Public health centers by taking a sample of 66 patients from the 4 Public health centers. Data processing was done by quantitative analysis. Quantitative analysis techniques are carried out data processing by statistical tests. Analysis of the data includes: validity, reliability, cross tabulation and multiple logistic regression statistical tests because the dependent variable was categorical (nominal) data to analyze between social factor variables and TB treatment decision making.

### RESULTS

#### Demographic Characteristics

Based on the results of the study, the following demographic characteristics of respondents are TB patients in Pasuruan:

Table 1. Demographic characteristics

Demographic	n	%
Sex		
Man	34	51.51
Woman	32	48.48
Age		
21 – 55 (adult)	48	72.72
>55 tahun (elderly)	18	27.27
Income		
<UMR (<3.200.000)	55	83.33
≥UMR (≥3.200.000)	10	15.15
>1,5x UMR (>4.800.000)	1	1.51
Total	66	100

### Analysis of the Influence of Social Factors on Decision Making of TB Treatment

Social factors such as reference groups, families, and social roles and statuses consist of all groups that have a direct or indirect influence on the person's position or behavior at the place where the person interacts. Social factors studied include reference groups, opinion leaders and family members. Social factors can also influence the treatment of patients because support from social factors is very important in the treatment of patients. The following is a cross tabulation of social factors for decision making in TB patients when deciding to go to the Public health center.

Table 2. Cross tabulation of social factors on decision making of TB treatment

Social factors	Discontinued treatment patients		Complete treatment patients		Total	
	n	%	n	%	n	%
Reference Group						
Family	9	34.6	17	65.4	26	100
Health workers	7	33.3	14	66.7	21	100
Public figure	2	20.0	8	80.0	10	100
Self	3	37.5	5	62.5	8	100
Etc	1	100.0	-	-	1	100
Leader Opinion						
Chairperson of RT/PKK	6	37.5	10	62.5	16	100
Religious leaders	7	41.2	10	58.8	17	100
Leader at work	2	50.0	2	50.0	4	100
There was no	7	24.1	22	75.9	29	100
Family members						
Husband and wife)	11	25.6	32	74.4	43	100
Child	4	44.4	5	55.6	9	100
Parents	-	28.6	2	100.0	2	100
Brothers and sisters	2	62.5	5	71.4	7	100
There was no	5	33.3	3	37.5	8	100

The following are the results of the analysis of the influence of social factors on decision making in TB patients when deciding to go to the Public health center.

Table 3. Dual logistic regression analysis of social factors for decision making of TB Treatment

Social Factors	p Value	Exp B
Reference Group	0.813	0.938
Leader Opinion	0.939	0.883
Family members	0.037	4.558

## DISCUSSION

Social factors such as reference groups, leader opinions, and family members, consist of all groups that have a direct or indirect influence on the person's position or behavior at the place where the person interacts. Reference groups are very important things that are considered as a reference basis for someone in determining their purchase or consumption. From the results of the study of complete treatment patients more reference groups were community leaders (80.0), while the patients who dropped out of treatment for reference groups were 37.5% themselves.

Leader opinion is the opinion of a person who is about TB treatment and who advises patients to take medication. The leader is defined as the patient can be from the leader in the workplace, community leaders and religious leaders. In the leader's opinion study followed by complete treatment patients as much as 75.9% there was no leader opinion followed. Whereas for patients who dropped out of treatment were leaders at work as much as 50.0%. For patients who have no leader's opinion followed by both patients who drop out of treatment and complete treatment patients because they follow the advice of health workers. Leaders besides giving opinions and suggesting also providing support to patients, as for the support of these leaders (community leaders, leaders in workplaces and religious leaders) when patients undergo treatment for complete treatment patients the most form of leader support is visiting when sick (71.4%), while patients who dropped out of treatment were reminded of the schedule for treatment (66.7%), gave time for treatment (12.1%), and visited when sick (5.2%).

The family is the smallest unit of the community which consists of the head of the family and several people who collect and live somewhere under a roof in a state of mutual dependence. Where families have a higher intensity of meeting than others. So to do more discussion. Given the process of purchasing decisions or the use of products or services, someone needs information about the product or service that will be used. From the results of the study, complete treatment patients with the most influential family members for treatment were spouses (husband/wife) of 74.4%, while patients who dropped out of treatment had no members who had influence to take medication (62.5%). The results are consistent with the research conducted by Muna and Soleha (2014) which states that there is a relationship between family social support and medication adherence (OR = 20.0; p = 0.027). Respondents who received high family social support had the possibility of being obedient 20 times more obedient than respondents who received low family social support<sup>(3)</sup>. The role of the family as influencers is as a party that provides information to other family members about goods and services that thus affect various consumption decisions that are related and as deciders, namely those who have the power to decide whether to buy goods or services or not<sup>(4)</sup>, supported by Irnawati, *et al.* (2016) which stated 83% of patients who received family support were more obedient in undergoing TB treatment. This study supports the opinion expressed by Khairunrahmi (2009) who said that the support of others such as family and friends is one of the factors that influence a person's behavior in buying health services<sup>(5)</sup>.

The existence of family support for TB patients illustrates that the stigma in the community about TB disease has changed. The community is expected to participate in the discovery of TB cases, report, and monitor patients in carrying out treatment. In addition to influencing the decision to treat tuberculosis, family members also provide tangible support, namely as a PMO (Supervisor for Drugs). The results of the study illustrate that the most complete PMO of treatment patients coming from the closest insiders/family is 69.9%. Whereas PMO treatment dropout patients came from outsiders by 50.0%. Forms of PMO activities that allowed patients to experience treatment breakdown were 66.7%, while PMO activities for complete treatment patients were to take medication to the Public health center (69.2%) tended not to drop out of treatment.

Medication supervisors (PMO) are external factors that exist in the individual environment that will affect the behavior of adherence to taking medication regularly. The role of PMO should be played, the role of family members should be done for reasons more reliable, besides the closeness of the emotional relationship PMO. This study was supported by the results of Silvani and Sureskiarti's study (2016) which stated that there was a relationship between the active role of the family as a medication supervisor (PMO) and pulmonary TB recurrence rate, the more active the family's role, the lower the number of pulmonary TB patients<sup>(6)</sup>.

## CONCLUSION

The results of the identification of demographic characteristics concluded that the majority of respondents in the age group 21-55 years, male gender, from the status of the lower middle class economy with income <UMR. The results of the identification of social factors concluded that the family as the most reference group, while the majority opinion of the leader was none followed because it was more following the family as a reference group, while the family members who most influenced the patient's decision were spouse (husband/wife). Social factors that influence decision making are family members.

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