Effect of Health Belief Model and Motivation Toward the Prevention of Lungs Tuberculosis Transmission in Public Health Center of Gurah, Kediri Regency

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ABSTRACT

Background: Tuberculosis is a health problem, both in terms of mortality rates, or mortality, and the incidence rate disease or morbidity. Tuberculosis is an infectious disease that is largely caused by the bacteria of Mycobacterium tuberculosis. Objective of this research was to know the effect of health belief model and motivation toward the prevention of lungs tuberculosis transmission.

Subjects and Methods: The research design used correlational analytic with approach method of cross sectional. While the sample in this research was the majority of patients with lungs tuberculosis in the Public Health center Gurah with BTA (+) amounted to 22 respondents. The research instrument used a questionnaire in each variable. Variable test analysis used bivariate test in the form of Spearman Rho test with a significant level α = 0.05, so able to answer the objective of the research.

Results: Based on the statistical tests of Rho Spearman correlation, obtained the result of p 0.001 for the health belief model and the p 0.021, which means that p 0.001 and 0.021 < 0.05. From these results, obtained that H1 is accepted which means there was influence of health belief model and the motivation toward the prevention of lungs tuberculosis transmission in public health center Gurah, Kediri regency in 2016.

Conclusion: Prevention of the transmission of lungs tuberculosis disease can be done by increasing the interrelationships between health care workers, family and patients with self-awareness of the adverse effect of the lungs tuberculosis disease.

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I. INTRODUCTION

Infectious disease is a health problem that has not been resolved up to now, one of the infectious diseases is Tuberculosis. Tuberculosis is a health problem, both in mortality or mortality terms, and the incidence of disease or morbidity (Kemenkes, 2011). Tuberculosis is also included in SDG program with the 3rd order number, which is to ensure a healthy life and encourage all people and all ages welfare with the target of ending epidemic tuberculosis (DG of Mutagenic Generic, 2015), tuberculosis infects many people in Indonesia and the world. This disease became known by all people in the world since Mycobacterium tuberculosis bacteria discovery by Robert Koch in 1882 (Kusnadi, 2013). These bacteria also have a high fat content in their cell membranes, causing these bacteria to be resistant to acid and bacteria growth progresses slowly (Tabrani, 2010).

Humans are very vulnerable to exposure to pulmonary tuberculosis because Indonesian who do not pay attention to environmental conditions, such as lighting conditions, seldom open the windows, humid and dusty environment. Humans infected by bacterium Mycobacterium tuberculosis passes on humans through splashes that come out when coughing, sneezing and while talking. Families have a greater risk of contracting TB because they can not avoid contacting with patients. Other risk factors for infectious tuberculosis include socioeconomic conditions, poor ventilation, poor nutrition, smoking and alcohol (Nurfadillah et al, 2014). This makes TB patients increasing.
Insufficient motivation in preventing disease transmission and public awareness, especially small community, family is the main key in breaking transmission chain of pulmonary tuberculosis.

Pulmonary tuberculosis (pulmonary TB) is a major health problem worldwide. Until 2011 there were 9 million new TB cases, and more than 2 million people died from TB. All the countries in the world contribute to TB cases, but the highest percentage occurs in Africa (30%) and Asia (55%) with China and India accounting for 35% of the total cases in Asia (WHO, 2011). Indonesia is a country in High Burden Countries and now in fifth rank with the highest TB burden in the world. Five countries with the largest number of incidents are India, China, South Africa, Nigeria and Indonesia. The estimated prevalence of all TB cases was 660,000 and incidence estimates 430,000 new cases per year. The number of TB deaths is estimated at 61,000 deaths per year (Kemenkes RI, 2011).

According to Indonesian Health Ministry (2011) survey on TB prevalence in 2009, knowledge, attitudes and behavior show that 96% of families care for family members with TB and only 13% hide their presence. Although 76% of families have heard of TB and 85% know that TB can be cured, only 26% can name two major signs and symptoms of TB. 51% of families understands about transmission mode of TB and only 19% know that TB drugs are free availability.

World Health Organization (WHO) report in 2012 estimated that 8.7 million people contracted pulmonary tuberculosis and 1.4 million people died. Southeast Asian countries are 29% of TB cases worldwide (Japparet al, 2015). Indonesia is in the fourth world rank after India, China and South Africa. Indonesia has 460,000 new cases of pulmonary tuberculosis each year. TB patients in 2013 in Indonesia reach 800,000-900,000 people (Kartika, in Kompas 2014). Seeing high mortality rate due to pulmonary tuberculosis, WHO implements Millennium Development Goals (MDGs) strategy. Based on preliminary study conducted at Puskesmas Gurah Kediri on January 5, 2016, it was found that during 2014 there were 40 tuberculosis patients which 19 patients had BTA (+), 16 patients had BTA (-), and 5 patients had dropped out. While in 2015 there were 35 TB patients which 22 patients had BTA (+), 13 patients had smear (-), and no patients dropped out.

At present, the implementation of TB control efforts in Indonesia is administratively under two Directorate General of Health Ministry, ie Health Development Planning, and P2PL (Tuberculosis Subdit under Directorate General of P2PL). Puskesmas development is under Directorate General of Health Efforts and backbone of TB services with the direction of Tuberculosis subdit, while hospital training is under Directorate General of Health Efforts (Kemenkes RI, 2011). Many ways to cope with pulmonary TB transmission, especially in the role of local labor, especially nurses in providing motivation with health belief model approach.

Health belief model is a cognitive model for identifying, predicting health behaviors, and explaining individual failure causes in disease prevention programs (Jadgal, et al 2015). Key concepts in health belief model are perceived vulnerability, seriousness, benefits and obstacles and gestures to action. researchers prove Health belief model effectiveness in preventive behaviors such as vaccination against infectious diseases such as bruselosis, breast self-examination for early cancer detection, and smoking cessation (Hambolu et al 2013).

The family as the smallest unit in community group plays an important role in patient recovery. This perception is very important to determine whether the family is obedient or disobedient in performing health measures. Therefore, it is important to assess family perceptions about tuberculosis, and if the family is still wrong in perceiving tuberculosis, the health workers (nurses in particular) can rectify disease and service concept received by the patient maximally. According to study results from Safri, et al (2013), states that health belief model has a relationship together in the healing program and sever transmission chain of pulmonary TB, so the model has a positive impact and can be done by health and family workers and surrounding community.

According to Nurfadillah’s study (2014), most pulmonary tuberculosis patients do not take preventive measures of TB transmission. Factors influencing person’s motivation to perform such action in this case, take an action to prevent transmission of pulmonary TB. According to Palinggi, et al (2013), Motivation has a major role in increasing supervision and encouragement to clients to independently prevent and deal with health problems.

Based on the above description, community and family perspective as the smallest unit is a very important basic system in pulmonary TB disease advocacy, which healthy behavior and health care are regulated, implemented, and secured. Families provide preventive health care and jointly care for sick family members. Families have primary responsibility to start and coordinate the services
provided by health care professionals. Family is also an important element of society that must have a business in improving health, if you want to be free from tuberculosis.

Based on the above explanation, the researchers are interested in examining "Influence of health belief model and motivation with prevention of pulmonary tuberculosis transmission in Puskesmas Gurah Kediri" The design used in this study is correlational analysis with cross sectional method approach.

II. METHOD

While the sample in this study that is most people with tuberculosis (TB) lungs in Puskesmas Gurah with BTA (+) of 22 respondents. This study instrument used questionnaires on each variable.

The study was conducted at Puskesmas Gurah Kediri District. Sampling is done by Sampling technique: Total Sampling. The population of 35 respondents consisted of BTA (-) as 13 respondents and BTA (+) as 22 respondents. In this study, the sample is respondents with BTA (+) as 22 respondents. Variable test analysis used bivariate test in the form of Spearman Rhodengan test significant level = 0.05, so it relates to study purpose.

Data collection is obtained from study location, recruitment section of Gurah Rodengan Health Center, and primary data obtained from questionnaires. Processing data is done by:

1. Editing

To check the number and completeness of filling in the questionnaires such as subject's study completeness, data completeness, and if any questions are answered correctly.

2. Coding

To simplify data processing, all answers need to be simplified by providing specific symbols / codes for each answer.

3. Tabulation

After the data are collected, the next is grouping the data in a table according to the properties held in accordance with study objectives.

III. RESULT

1. Bivariate Analysis Results


Table 5.4. Cross tabulation relationship of Health belief model with Pulmonary TB Transmission prevention

<table>
<thead>
<tr>
<th>No.</th>
<th>Health Model</th>
<th>Belief</th>
<th>Pulmonary TB Transmission prevention</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Good</td>
<td>Enough</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>1.</td>
<td>Good</td>
<td></td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>2.</td>
<td>Enough</td>
<td></td>
<td>11</td>
<td>50</td>
</tr>
<tr>
<td>3.</td>
<td>Less</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>14</td>
<td>59</td>
</tr>
</tbody>
</table>

Source: Primary Data 2016
Table 5.5 Cross-tabulation Relationship of Motivation with Pulmonary TB Transmission prevention

<table>
<thead>
<tr>
<th>No.</th>
<th>Motivation</th>
<th>Pulmonary prevention</th>
<th>TB</th>
<th>Transmission prevention</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Good</td>
<td>%</td>
<td>Enough</td>
<td>%</td>
</tr>
<tr>
<td>1.</td>
<td>Strong</td>
<td>2</td>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2.</td>
<td>Middle</td>
<td>8</td>
<td>36</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>3.</td>
<td>Weak</td>
<td>3</td>
<td>14</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>13</td>
<td>59</td>
<td>4</td>
<td>18</td>
</tr>
</tbody>
</table>

Source: Primary Data 2016

Based on the table 5.4 and 5.5 above cross-tabulation results obtained if it has a good health belief model, then disease transmission prevention will also be good. So it is also by a strong motivation, then disease transmission prevention will also be good too.

From the calculation interprets how strong the relationship is in forming words. Here's how to interpret data and correlation by Nursalam (2011):

Table 4.4 Correlation Coefficient Interpretation

<table>
<thead>
<tr>
<th>Interval Coefficient</th>
<th>Relationship Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00 – 0.199</td>
<td>The lowerest</td>
</tr>
<tr>
<td>0.20 – 0.399</td>
<td>Lower</td>
</tr>
<tr>
<td>0.40 – 0.599</td>
<td>Middle</td>
</tr>
<tr>
<td>0.60 – 0.799</td>
<td>Strong</td>
</tr>
<tr>
<td>0.80 – 1.0001</td>
<td>The strongest</td>
</tr>
</tbody>
</table>

a. Spearman’s Rho Analysis Results

Spearman’s Rho correlation calculation results can be seen in the following table:

1. Health belief model Relation Analysis with Pulmonary TB Transmission Correlations Prevention

<table>
<thead>
<tr>
<th>Spearman’s rho</th>
<th>Health belief model</th>
<th>Correlation coefficient</th>
<th>sig. (2-tailed)</th>
<th>N</th>
<th>Pulmonary Transmission prevention</th>
<th>Correlation coefficient</th>
<th>sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.000</td>
<td>Health belief model</td>
<td>Correlation coefficient</td>
<td>sig. (2-tailed)</td>
<td>22</td>
<td>Pulmonary Transmission prevention</td>
<td>Correlation coefficient</td>
<td>sig. (2-tailed)</td>
<td>22</td>
</tr>
<tr>
<td>.643”</td>
<td>Pulmonary TB</td>
<td>Correlation coefficient</td>
<td>sig. (2-tailed)</td>
<td>22</td>
<td>.001</td>
<td>.643”</td>
<td>.001</td>
<td>22</td>
</tr>
<tr>
<td>.001</td>
<td>Transmission prevention</td>
<td>Correlation coefficient</td>
<td>sig. (2-tailed)</td>
<td>22</td>
<td>1.000</td>
<td>.001</td>
<td>1.000</td>
<td>22</td>
</tr>
</tbody>
</table>

**Correlation is significant at 0.01 level (2-tailed)
Based on the analysis, there was a relationship between health belief model with prevention of pulmonary tuberculosis transmission at Puskesmas Gurah Kediriyang District having sig value (2-tailed) = 0.05 or p = 0.001 and this shows that p <, so H0 is rejected and H1 accepted, health belief model with TB transmission prevention at Puskesmas Gurah Kediri in 2016 and value of coefficient correlation is equal to 0.643 which means strength of relationship including strong and positive category.

2. Motivational Relation Analysis with Pulmonary TB Transmission Correlation Prevention

<table>
<thead>
<tr>
<th>Spearman’s rho</th>
<th>Motivation</th>
<th>Pulmonary Transmission prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Correlation coefficient sig. (2-tailed)</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>22</td>
</tr>
</tbody>
</table>

Based on the analysis, there is a correlation between motivation and prevention of pulmonary tuberculosis transmission at Puskesmas Gurah Kediri which had sig value (2-tailed) = 0.05 or p = 0.021 and this showed that p <, so H0 is rejected and H1 is accepted, meaning there is motivation with prevention of Pulmonary TB transmission at Puskesmas Gurah Kediri in 2016 and value of coefficient correlation is equal to 0.490 which means strength of relationship is medium and positive category.

IV. DISCUSSION

1. Identifying Health belief model (HBM) Use

Based on table 5.1, it is known that from 22 respondents most of the respondents have health belief model with "enough" category as 15 respondents (68%), while others have "less" category as 5 respondents (23%) and with "good" category as 2 respondents (9%). This study is supported by general data in almost half of the respondents have primary school (SD) education as 9 respondents (41%) and almost half of respondents do not work as 7 respondents (32%).

2. Identifying Pulmonary TB Patient’s Motivation

Based on table 5.2, it is known that from 22 respondents 11 respondents (50%) have motivation with "moderate" category, while 9 respondents (41%) have weak motivation and 2 respondents (9%) have strong motivation.

3. Identifying Lung TB Prevention

Based on Table 5.3 it is known that from 22 respondents most have pulmonary TB behavior prevention with good category as 13 respondents (59%), while 4 respondents (18%) have "enough" transmission prevention and with 5 respondents (23%) have "less" category.
4. Effect Analysis of Health belief model and Motivation with Pulmonary TB Transmission Prevention

Based on table 5.4 and 5.5 above, cross tabulation results obtained that if it has a good health belief model, then disease transmission prevention will also be good. So it is also with a strong motivation, then disease transmission prevention will also be good too.

According to Mulyanti’s journal (2012), states that the stronger person’s belief that running a behavior will give positive results and prevent negative results, the more fun his attitude in running the behavior is, without forcing individual to take behavior. According to Wijaya journal (2013), states that high knowledge has possibility actively 18 times greater than low knowledge in pulmonary tuberculosis prevention. Good attitude has possibility active 8 times greater than lack of attitude in Pulmonary TB prevention. Motivation is high possibility to be active 15 times greater than low motivation in pulmonary tuberculosis prevention.

Based on the analysis, there was a relationship between health belief model with prevention of pulmonary tuberculosis transmission at Puskesmas Gurah Kediri having sig value (2-tailed) = 0,05 or p = 0,001 and this shows that p <, so H0 is rejected and H1 is accepted, health belief model with TB transmission prevention in Puskesmas Gurah Kediri in 2016 and value of coefficient correlation is equal to 0,643 which means strength of relationship is strong and positive category.

Analysis result of health belief model influence with prevention of pulmonary tuberculosis transmission indicates that there is strong influence between two variables. It shows that the respondent's belief in transmission prevention in surrounding, especially in family it can be prevented by the existence of lung tuberculosis patients spread its disease. Patient and family try to believe factor existence that can transmit disease, so early protection must be done.

Based on the analysis, there is a correlation between motivation and prevention of pulmonary tuberculosis transmission at Puskesmas Gurah Kediri having sig value (2-tailed) = 0,05 or p = 0,021 and this shows that p <, so H0 is rejected and H1 is accepted, meaning there is motivation with prevention of Pulmonary TB transmission at Puskesmas Gurah Kediri in 2016 and value of coefficient correlation is equal to 0,490 which means strength of relationship is medium and positive category.

Data analysis result between motivation variable and prevention of pulmonary tuberculosis transmission, which has influence that can make the patient try to increase expectation on himself to be more careful in making contact with the environment, both family and community. Influences on both variable have a bond moderate, because the motivation in pulmonary tuberculosis patients is too easy to change, considering psychological pulmonary TB patients to adjust to the symptoms and stigma of family and surrounding.

Families in the effort to cut pulmonary TB disease transmission is always to remind patient not to throw sputum everywhere, other than that prepare a special place for TB patients to throw sputum. Throwing sputum is not arbitrary but it is an effort to prevent disease transmission.

V. CONCLUSION

Most of the respondents had health belief model use with "enough" category as 15 respondents (68%). The half respondents had motivation with "middle" category as 11 respondents (50%). Respondent majority had pulmonary TB behavior prevention with "good "category as 13 respondents (59%).

There is health belief model influence with prevention of pulmonary tuberculosis transmission at Puskesmas Gurah Kediri having value of sig (2-tailed) p = 0,001. There is motivation with prevention of pulmonary tuberculosis transmission at Puskesmas Gurah Kediri having value of sig (2-tailed) p = 0,021.
VI. REFERENCES


