The Correlation Between the Perceived Recovery and Migration with Drop Out TB Treatments at Dili and Ermera Districts - Timor-Leste

Valente Da Silva¹, Made Bakta¹, Wirawan N,¹ Tigeh Suryadi.¹
¹Doctoral Program in Medical Science of Postgraduate Program of Udayana University, Bali-Indonesia.
²Community Health Science Program of Udayana University. Bali-Indonesia.

Corresponding: E-mail: Valente1968@yahoo.com.au

ABSTRACT

Background: Tuberculosis (TB) is a direct contagious infectious disease caused by Mycobacterium tuberculosis. The bacteria commonly affect the lungs with source of transmission is the positive pulmonary TB patient’s sputum or smear. Default patient’s treatment with pulmonary TB BTA (+) was to take medicine for two months or more, respectively in the initial phase and in the continuation phase. According to the WHO report, in 2013, drop out from treatment were experienced by 194 countries as follows: Africa Region (14%); America (25%); Western Mediterranean (13%); Europe (5.3%); Southeast Asia (21%) Western Pacific (3.9%). Timor-Leste drop out problem was caused by migration. According to Ministry of Health of Timor-Leste, 2008, that in the early phase of TB treatment (first 14 days), patients experience dramatic change in symptoms, where they feel better and cured so they stop taking TB drugs. Objective: This study aims to determine whether there was a correlation between variables of perceived recovery, migration to drop out case of TB treatment. Method: This is descriptive study using case-control design. The research samples were randomly chosen with a ratio of (1:1) namely 57 of the case group and 57 of the control group so that the total number of samples was 114 people, who meet the inclusion and exclusion criteria. Results: There is a significant correlation between the feelings of TB cured with drop out from TB treatment (p < 0.05), and there is a significant correlation between migration with drop out from TB treatment (p < 0.05) Conclusion: There is a significant correlation between the perceived recovery, and migration to the drop out cases of TB treatment.

Keywords: Perceived Recovery, Migration, Defaulting TB Treatments

INTRODUCTION

Tuberculosis (TB) is a direct contagious infectious disease caused by Mycobacterium tuberculosis. These germs attack the lungs with a source of transmission is patients with positive pulmonary tuberculosis smear.¹ According to the WHO report, in 2013, drop out from TB treatment were experienced by 194 countries as follows: Africa Region (14%); America (25%); Western Mediterranean (13%); Europe (5.3%); Southeast Asia (21%) Western Pacific (3.9%). Over 95% of deaths from pulmonary tuberculosis occurred in low and middle income countries including the Timor-Leste.² Results of treatment of patients with smear (+) pulmonary tuberculosis were reported by CDC of Timor-Leste consists of: Complete treatment, patient’s recovery, treatment failure; defaulting from treatment, and migration.³ According to Hacker, et al, in Belgium, drop out from TB treatment in patients with pulmonary TB BTA (+) were caused by gender, and age. Besides the social factors such as marital status and employment status that also plays a role.

According to Housen, et al, 2012, in East Timor that the population that experiencing migration (44.3%) was in a female group, and (55.7%) is in a male group. The results showed that the reason for the migration was (60.4%) for education, looking for work (15.1%), and follow their husband / family of (11%). Directly Observed Treatment Short Course (DOTS) is one of the strategies Program of the Timor-Leste Ministry of Health that must be implemented in all health care centers, and patients must be monitored when taking medications under the responsibility of a TB coordinator. Steps that must be taken by the Government of Timor-Leste to strengthen the ongoing program with the following policies: (a) The increase in budget; (B) The discovery of new cases with (+) sputum; (C) The standard of treatment for 6-8 months, applies to all TB patients with smear-positive new cases; (D) adequate availability of medication; (E) recording system of good and regular reporting (Ministry of Health of Timor-Leste, 2008).³-¹⁰
According to WHO (1984) that a person behaves in certain ways because of no fundamental reason in the form of knowledge, perceptions, attitudes, beliefs, assessment of the object. Then the knowledge obtained from the parents, grandparents and an accepted belief that is based on faith and the previous evidence. According to Foster, University of California that epidemiologically many other factors have been declared as factors that play an important role for the distribution and prevalence of various health problems. Management problems of medications and medical equipment that are faced by Timor-Leste Ministry of Health /TL CDC, among others: (a) Limited human resources; (b) Inadequate coordination among Departments; (c) Inadequate distribution of pharmaceuticals (Timor-Leste Ministry of Health, 2008). Results of treatment of pulmonary tuberculosis BTA (+) were reported by CDC of Timor-Leste in the last three years namely: In 2010, the mortality by TB (3.53%); Defaulting from treatment (4.05%); Outmigration (3.98%); In 2011 the mortality by TB (3.36%); Defaulting from treatment (3.36%); Outmigration (1.92%); In 2012, the mortality by TB (3.49%) Defaulting from treatment (4.59%) and migration, (2.26%).

According to Paul Colson, the factors that may affect the patients' defaulting from treatment are: (1) Because of the patient’s own reason; (2) Characteristics of the provider; (3) Facilities of clinic; (4) treatment regimen; (5) Because of the disease. The challenges faced by the Government of Timor-Leste are: (a) Lack of skills and knowledge of health workers; (b) lack of monitoring and evaluation; (c) Movements of health staff in the health environment; (d) Resignations of the civil servants. According to Martins, et al, (2008) in Timor-Leste that some of the factors that can affect the incidence of incomplete of treatment are: (1) The use of traditional medicine; (2) economic barriers; (Geographical conditions). According to the report of National Statistics Directorate (NSD) of 2011 that in the location of research, the populations are 47% still living in rural areas and the rest of 53% of the population are still living in urban areas.

**METHODS**

**Research Methods**

This is a descriptive study using case control correlation method. Samples were selected randomly by the ratio of (1:1), namely 57 of the case group and 57 of the control group so that the total number of samples was 114 people who met the inclusion and exclusion criteria. The control samples were selected by matching based on age and gender. Analysis of the correlation between the study variables was conducted by using Chi-Square test ($\alpha = 0.05$). The locations of research were in the Districts of Dili and Ermera of Timor-Leste conducted on 10 January 2015.

**Statistical Analysis**

The data were analyzed descriptively to get an overview of the relative frequency distribution of the independent and the dependent variables. The Pearson Chi-Square Test ($\alpha = 0.05$), in order to determine the correlation between variables of perceived recovery, migration with the variable of defaulting from TB treatment.

**RESULT**

Table 1 shows the characteristics of the study subjects namely gender, age group, education, occupation, marital status and defaulting from TB treatment. Descriptive analysis shows the frequency distribution and percentage of research subjects namely: the largest percentage of 73.7% was in the male group, compared with the female group of 26.3%. Age group being the largest percentage of 31.6% was in the age group of 15-24 years old, compared with the age group of 25-34 years old which was 29.8%. It also shows that a larger percentage of 43.9% was in the level of high school education and higher education, compared with those unschooled people (21%). The characteristics by occupation were farmers with a greater percentage of 45.6%, compared with the home industry jobs at 33.3%. The results shown in table 1 also present the characteristic of marital status, in which the largest percentage of 64.9% was in married respondents, compared with the single status of 26.3%. Table 2 shows that there was a significant correlation between the variables of perceived recovery with the variable of defaulting from medication ($p < 0.05$). Then there was a significant correlation between migration and Default from TB treatment ($p < 0.05$).

**DISCUSSION**

Based on the analysis of descriptive characteristics of the study subjects showed that the largest percentage of 73.7% was in the male group, compared with the female group of 26.3%. The results of this study are similar to the results of the study of Maruza, et al 2011 in Brazil that 82.3% male patients experienced defaulting from TB treatment. It also occurred in Kenya that the male group of 59.4% were defaulting from TB treatment, and 40.6% of female patients experienced defaulting from TB treatment. The results of the study of Hima, et al, 2015 showed that in Indonesia, 40% of male patients...
experienced defaulting from TB treatment. According to the characteristics of research subjects, it showed that 31.6% of defaulting from TB treatment cases was in the age group of 15-24 years old, compared to the age group of 25-34 years old (29.8%).

Table 1. The Frequency of Default from TB Treatment Cases Based on the Research Subject Characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Defaulting from TB treatment</th>
<th>Non-Defaulting from TB treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>Male</td>
<td>42</td>
<td>73.7</td>
</tr>
<tr>
<td>Female</td>
<td>15</td>
<td>26.3</td>
</tr>
</tbody>
</table>

In Table 1 are presented the results of the descriptive analysis that the characteristics of education with the percentage (43.9%) was in the group of high school and higher education. The results of this research is similar to the research of Lackey, et al, 2015 in Peru with patients of secondary education who experienced defaulting from the TB treatment OR = 1.55 95% CI: 1.03-2.33. The problem of defaulting from TB treatments also occurs in Kenya with the number of 71.4% was on the educational level of Primary School and 28.6% on the patients with Secondary School. Seen from the job characteristics, the dominant percentage of 45.6% was in the farmer group. The same problem was reported in Kenya that defaulting from TB treatment in the group of unemployed patients reached 68.2%, while for the employed amounted to 31.8%. Seen from the characteristics of the marital status, the largest percentage of 64.6% was in married patients, compared with those in single status (26.3%). The same cases of defaulting from TB treatment also happened in Kenya that the single group (57.3%) and the married group (42.7%).

Table 2. The Correlation between the Perceived Recovery and Migration with Defaulting from TB treatment

<table>
<thead>
<tr>
<th>Variable</th>
<th>Defaulting from TB treatment n (%)</th>
<th>Non-Defaulting from TB treatment n (%)</th>
<th>Value of p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Recovery</td>
<td>Yes</td>
<td>54(94,7)</td>
<td>18(31,6)</td>
</tr>
<tr>
<td>Migration</td>
<td>No</td>
<td>3(5,3)</td>
<td>39(68,4)</td>
</tr>
<tr>
<td>Yes</td>
<td>20(35,0)</td>
<td>9(15,8)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>37(65,0)</td>
<td>48(84,2)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>57(100,0)</td>
<td>57(100,0)</td>
<td></td>
</tr>
</tbody>
</table>

The causes of defaulting from TB were the subject of research who defaulted in taking medication adequately and properly as supported by the results of the study the recorded cases of defaulting from TB treatment was 11%. With the DOTS program, it is expected to reduce the morbidity and mortality, to improve the quality of life, to maintain the immune system and to limit the transmission of TB germs to other family members. Table 2 presented that there was a significant correlation between the perceived recovery with defaulting from TB treatment (p <0.05). Reasons for defaulting from TB treatment because: (a) the long term treatment of TB, (b) Felt had recovered since the early weeks of the treatment of the symptoms of TB disease disappears dramatically, (anonymous,) The results in Table 2 show that there was a significant correlation between migration and the defaulting from TB treatments (p <0.05). This research is the same as the results of research by Hacker, et al, in Belgium that patients of defaulting from pulmonary TB treatments were due to migration.
factors, but the percentage value was not mentioned.

CONCLUSION
Based on the results of research and data analysis, it can be concluded that the output of this study are as follows: There was a significant correlation between the variables of perceived recovery and migration with the variable of defaulting from TB treatment.

REFERENCES
1. Brian Lackey, Carlos Seas, Patrick Van der Stuyit, Larisea Otero, Patient Characteristic Associated with Tuberculosis Default: A Cohort Study in a High-Incidence rea of Lima, Peru.
11. Alyssa Finlay,1 Joey Lancaster,2 Timothy H Holtz,2 Karin Weyer,3 Abe Miranda,1 and Martie van der Walt, 2002 A National Study to Identify Factors Associated with Default from TB Treatment, South Africa; 16 - 02- 2014, 17.35 pm.

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