Role of Family Members in the Treatment of Tuberculosis Patients: 
A Systematic Review

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Keywords: Tuberculosis, Family Members, Family Intervention, Family Support.

Abstract: Tuberculosis (TB) is an infectious disease transmitted through droplet in the air by the sputum of a patient who has a positive that is spread at the time of cough and can kill about two million people per year. In the worldwide, TB disease increased dramatically. Ineffectiveness of TB programs is one of the causes of increasing TB disease. Partisipation of family member is needed in implementation TB programs. The purpose of this research was to examine the effectiveness of family member’s roles in the treatment of TB patients. The keywords were "Family Members, Family Support, Family Intervention, Tuberculosis, Direct Observation Therapy". Journal article are made through several databases including Google Scholar, PubMed and Science Direct that start from 2013 up to 2018. The results showed that the role of family members in TB treatment is very important and beneficial, in addition to helping the achievement of TB treatment success targets, nationally and internationally, family members can become health promotion partner for their own family members and the community.

1 INTRODUCTION

The results of the Household Health Survey show that after cardiovascular and respiratory disease, tuberculosis (TB) is the third leading cause of death and the first ranks of infectious diseases. TB is an infectious bacterial disease caused by Mycobacterium tuberculosis and it’s a major killer of an infectious agent worldwide, especially in Asia and Africa. Generally attack the lungs, so was called pulmonary tuberculosis, but can also attack other organs such as lymph nodes, membranes of the brain, skin, bones, joints, intestines, kidneys, and other organs so it’s called Extra Lung disease. (Puspita, Christiano & Yovi, 2016).

According to the University of Stellenbosch Information Center, TB disease is referred to by some as "The Mother of Diseases" and is a contagious disease that can spread like wildfire. TB is associated with poverty, population density, alcoholism, stress, drug addiction and malnutrition. In addition, the disease spreads easily in crowded and densely populated, poorly ventilated, and among malnourished people. This causes TB to be known as a disease of poverty. (Narasimhan, 2013).

Several interventions have been undertaken and examined to reduce the spread of TB disease, such as finding cases, improving nutrition, providing medication and others. However, some programs are unsuccessful in their implementation due to several factors, such as economics, knowledge, culture and patient compliance with treatment.

The study, conducted by Dodor (2008), aims to evaluate the nutritional status of TB patients when they were first diagnosed with TB and have not started treatment, indicating that the mean BMI at initial enrollment was 18.7 kg / m², 51% of TB patients were assessed to be malnourished, of which 24% had mild malnutrition, 12% moderate and 15% severe. Two months after starting medication the average BMI was 19.5 kg / m², with the number of patients experiencing malnutrition decreased to 40%, with percentage 21% mild malnutrition, 11% moderate and 8% severe malnutrition. In the study it was explained that nutritional status was significantly associated with age, marital status, monthly income (occupation), education level, confidence to avoid certain types of food and close relatives at the start of TB treatment. These findings indicate the need for nutritional support during TB
treatment, supported by various factors: age, sex, marital status, income, education level, trust and family support.

Meanwhile, another study by Newell, Baral, Pande, et. al. (2006), 549 patients were allocated to the DOTS community and 358 patients were allocated to DOTS family members. DOTS communities and DOTS family members achieved a success rate of 85% and 89% (respectively, with the odds ratio of DOTS community success relative to DOTS family members, 0.67 [95% CI 0.41-1.10], p = 0.09). The estimated case-finding rate is 63% with community strategy and 44% through DOTS family members.

Based on the above explanation can be concluded that the family have an important role in the success of treatment and treatment of tuberculosis.

2 METHOD

This review are made through several databases including Google Scholar, PubMed and Science Direct that start from 2013 up to 2018 dan the keywords were "Family Members, Family Support, Family Intervention, Tuberculosis, Direct Observation Therapy". Articles selected for review according to inclusion criteria. The inclusion criteria in this systematic review are 1) RCT research design, 2) the treatment involves the family, 3) the sample is patient TB and or their family. Articles that meet the inclusion criteria are 6 articles.

3 RESULT

Six articles have been collected, analyzed and scored. The results obtained are as follows: in a study conducted by Ayles, Muyoyeta, Du Toit, et. al. (2013), explains that among the two interventions are community-level enhanced tuberculosis case-finding (ECF) and household levels of tuberculosis-HIV care, which is used to measure the burden of tuberculosis, which effectively gives the indicator decrease the burden of tuberculosis is the communities receiving the household intervention. Where in the household intervention is built on traditional psychosocial counseling models to encourage and support household members to assess their risks and vulnerabilities to HIV and tuberculosis and to facilitate relationships in proper diagnosis, care and prevention both within the home and through services there is. This household counseling model empowers households, and through their neighbors, families, and eventually the community, to seek early treatment when the symptoms of tuberculosis begin.

This is in accordance with research conducted by Greg, Nguyen, Dinh, et. al. (2018), which explains that Household-contact investigation plus standard passive case finding is effective in finding TB cases. In 36 districts included in the intervention group, 180 out of 10,069 registered contacts had tuberculosis (1788 cases per 100,000 population), compared with 110 of 15,638 contacts (703 per 100,000) in the control group (relative risk of primary outcome in the intervention group, 2.5; 95% confidence interval [CI], 2.0 to 3.2; P <0.001); the relative risk of smear-positive disease among household contacts in the intervention group was 6.4 (95% CI, 4.5 to 9.0, P <0.001).

Research conducted by Khachadourian, Truzyan, Harutyunyan, et. al. (2015) also explained that through the intervention People-centered tuberculosis can support its adoption in countries with similar health and economic profiles. In such interventions patients and family members receive counseling, knowledge, stigma reduction, and improved drug adherence, as well as reminders through Short Message Service (SMS).

Other studies conducted by Dave, Shah, & Nimawat et. al. (2016) show that from 624 children with newly diagnosed TB, 359 (58%) in the intervention group (DOT by family members) the success rate of treatment reached 344 (95.8%) and 265 (42%) (DOT as usual treatment) with treatment success rate of 247 (93.2%) (p = 0.11). It is concluded that DOT provided by family members is not inferior to DOT given by non-family members among new TB cases in children and can achieve successful international achievement.

The same role as DOT was also shown in a study conducted by Newell, Baral, Pande, et. al. (2006), the results of the study showed that of the 358 enrolled into the family-member DOTS group, 319 (89%) were successfully treated.

Another effect of the role of the family in the treatment of tuberculosis is related to health costs.
Based on research conducted by Hunchangsith, Barendregt, Vos, et. al. (2012), the health benefits through DOT by family are 9400 (2005 international dollars [I $]) disability-adjusted life years (DALYs) (95% uncertainty interval 7200 to 25,000) and it means that the family-member DOT is a cost-saving intervention.

4 DISCUSSION

The literature study in this study is about the role of the family in the treatment and treatment of tuberculosis. All reviews indicate that the family plays an important role in the treatment and treatment of tuberculosis. At ZAMSTAR intervention (Zambia, South Africa Tuberculosis and AIDS Reduction) consisting of two types of intervention: a community-level enhanced case-finding (ECF) intervention and a strategy of combined tuberculosis-HIV activities at the household level. This study shows that household intervention is more effective at reducing the burden of disease, as it can improve community screening so early prevention of tuberculosis is possible.

In the DOT strategy research by family members may be said to be more effective because it is associated with the geographical conditions of the patient’s residence in the hills and mountains, which does not allow nurses or DOT officers and patients to meet so that involving the family in DOT intervention is one strategic and profitable way too saving on treatment costs for tuberculosis. In addition to patients there is no need to make clinical visits to nearby services and health personnel do not need to always make visits to the patient’s residence.

5 CONCLUSION

The results showed that the role of family members in TB treatment is very important and beneficial, in addition to helping the achievement of TB treatment success targets, nationally and internationally, family members can become health promotion partner for their own family members and the community.

REFERENCES


