

Analysis of tuberculosis prevention and control problems in an Indonesian community health center in 2019

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Abstract.

Background: In 2017, East Java Province was ranked second in Indonesia to discover tuberculosis (TB) patients. The Southern Regional Health Center of Kediri City was ranked fifth out of 27 cases.

Objectives of the study: This study aims to analyze the problem and prioritize health issues of TB in the Southern Regional Health Center of Kediri in 2019.

Methods: The observation was carried out using performance assessment for the Southern Regional Health Center data in 2018 with the ultrasound and fishbone methods.

Results: It was noticed that all TB cases were found and treated, including the discovery of suspected TB cases and the successful treatment of all TB cases (Success Rate/SR). The main problems in the Southern Regional Health Center in 2019 were that the suspected tuberculosis sputum pot was not returned, the people's lack of knowledge, and less active TB cadres.

Conclusion: Some of the problems found are the lack of knowledge regarding TB, less active TB cadres, lack of coordination among TB cadres, limitation of people who are willing to become TB cadres, and the time limitation of TB cadres.

Keywords: analysis, priority problems, Tuberculosis

1. Preliminary/Introduction

Nowadays, tuberculosis (hereafter, TB) becomes a significant health problem, which according to WHO in 2016, it was estimated that there were 10.4 million people with TB worldwide and killed about 1.3 million people in the same year (1). In Indonesia, TB tended to increase between 2013 – 2016 in which the incidence rate of TB in Indonesia was 391 cases per 100,000 population (2).

The number of new TB cases in Indonesia was as many as 420,994 cases in 2017 (data as of May 17, 2018). By sex/gender, the number of new TB cases in 2017 in men was 1.4 times greater than in women. Based on the prevalence of Tuberculosis Prevalence Survey, the number of TB cases in men was three times higher than women, which happens in other countries as well. The incidence is likely due to men are more exposed to the risk factor of tuberculosis, such as smoking and lack of non-compliance with taking medication. The survey found that there were 68,5% men participants, while only 3.7% of women participants who smoke (3).

In 2017, East Java Province ranked second in Indonesia in the number of TB cases detection. The number of discoveries of new cases due to the Acid-Fast Bacillus (hereafter, AFB) test was as many as 26,152 cases (CNR = 67/100,000 population). Moreover, the number of all TB cases discoveries was as many as 54,811 cases (CNR = 139/100,000 population or CDR = 46%). The CNR target of all cases stipulated by the Ministry of Health of the Republic of Indonesia in 2017, furthermore, amounted to 185/100,000 population and CDR = 51% (4).

Based on the data from the Kediri City Health Office, TB cases, among nine community health centers, it appeared that Balowerti Health Center was in the highest position with 47 TB cases. The second place was Sukorame Health Center with 41 cases. The third was Pesantren II Health Center, with a total of 37 cases. Next, the Southern Regional Health Center was ranked 5th with a total of 27 cases (Table 1).

Therefore, based on the existing data explicated previously, this study attempts to discover the main problems and the root causes of TB disease in the Southern Regional Health Center of Kediri City in 2019, since the TB program indicators had not met the target.

2. Materials and Methods

2.1. The study design, population, sample(s), and variables

The research design used in this study was descriptive observational (5). This study further used quantitative and qualitative research to identify the problem by observing secondary data, including the performance assessment for community health centers (*Penilaian Kinerja Puskesmas* or PKP) data in 2018 and collecting data on the significant problems by employing the USG method (Urgency, Seriousness, & Growth). As for the qualitative approach, the authors applied the in-depth interview. The informants of this study were parties associated with the TB program, including the chief of TB program, the head of the health center, the UKBM (Community-Based Health Efforts) program holder, and the surveillance program holder. On the other hand, the supporting informants covered TBC cadres, with an assumption that they are familiar with the phenomenon they have experienced.

2.2. The research instrument

The research instrument used was in the form of a structured interview that the authors had listed by following the input approach (Man, Method, Materials & Money).

2.3. Research procedures and analysis

This study used several written documents, which include PKP documents, USG results, and the results of in-depth interviews with the staffs of the community health center and TB cadres. The interviews were displayed in the form of a fishbone diagram which elucidated the root cause(s) of the problems of the not-achieved TB program indicators.

3. Results

Based on the identification of the problem using the PKP data in 2018, the TB program indicators in the Southern Regional Health Center disclosed that all TB cases were found and treated, including the discovery of suspected TB cases and the success rate of treatment of all TB cases (Success Rate/SR). The number of TB cases in Kediri City can be further seen in Figure 1.

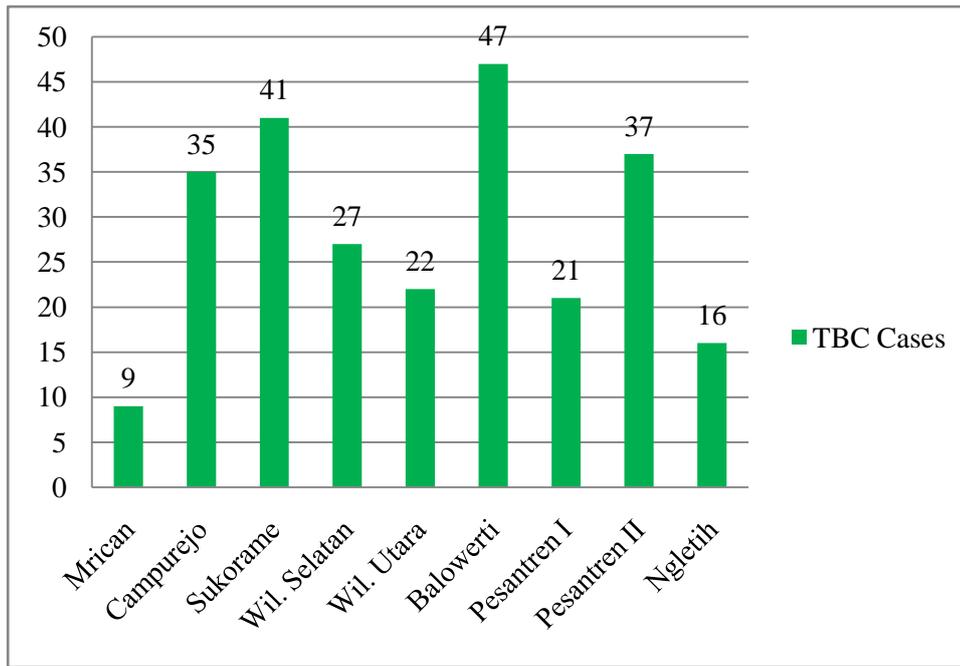


Figure 1. Number of TB cases based on the Health Office of Kediri Region in 2018

Seen from the indicators of all found and treated TB cases, the goal was 75 people, while the achieved target was 22 people (29.3%). The indicator of TB case finding was targeted 217 people; however, the number only reached 113 (52.1%). The success rate of treatment for all TB cases was expected as many as 25 people, while in practice, only 19 people (84.4%) were found success (Figure 2).

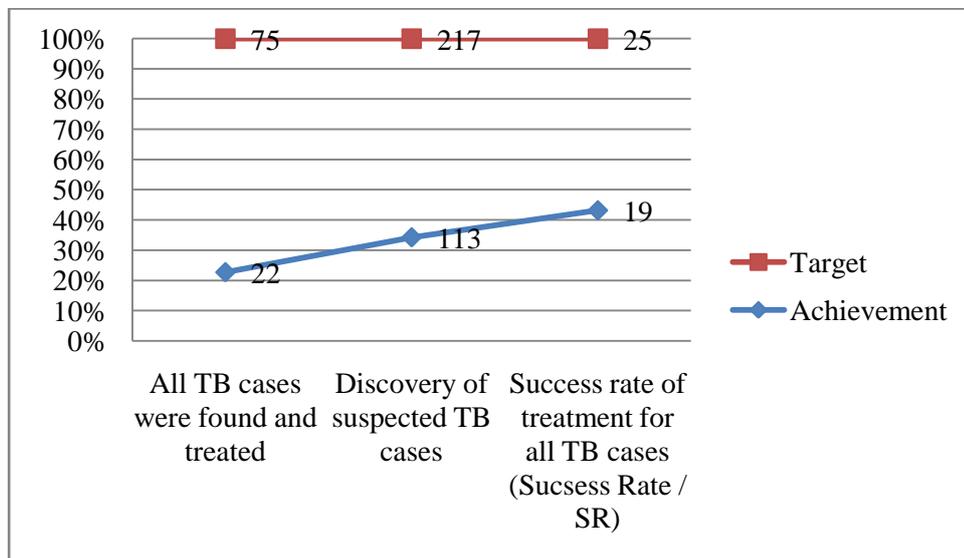


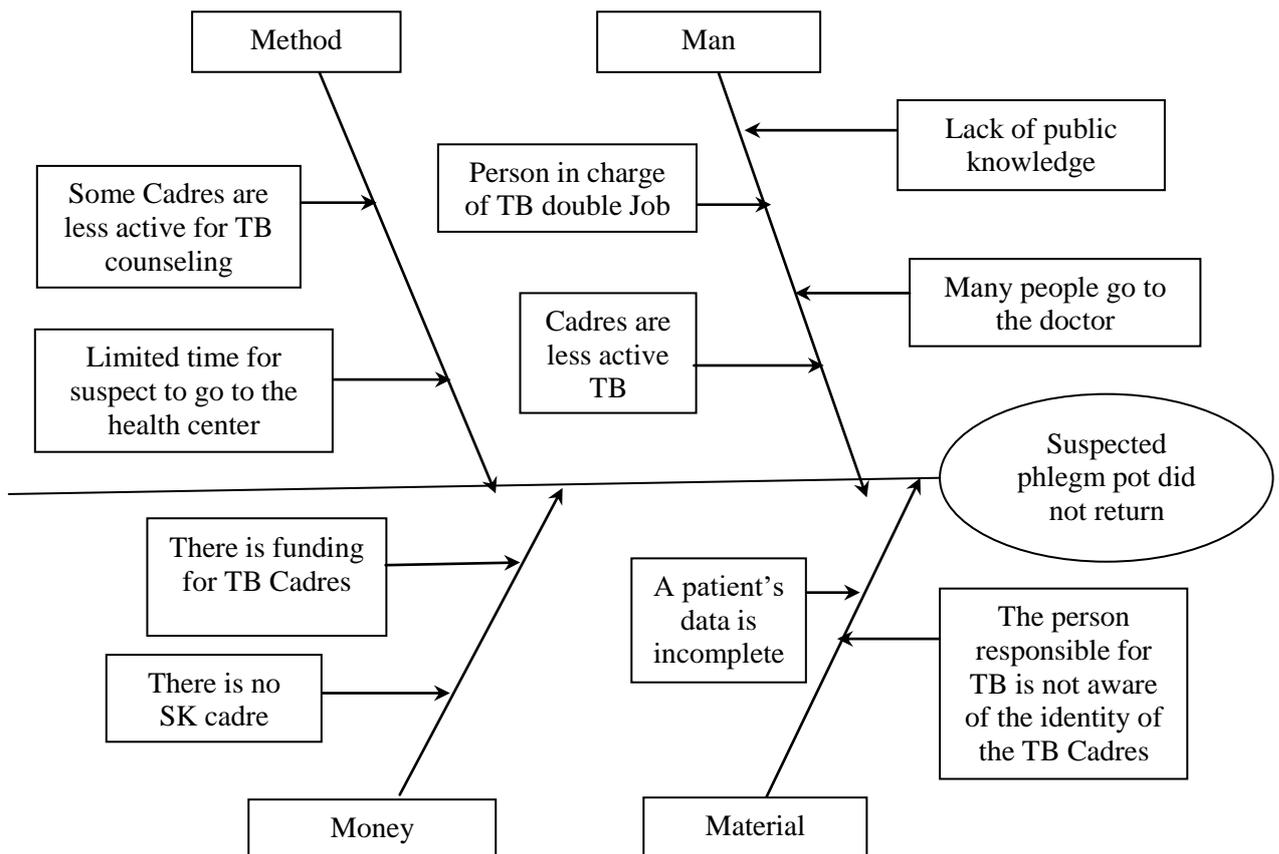
Figure 2. TB Program Achievement Indicators in the Southern Regional Health Center of Kediri City in 2018

The prioritization of the significant problems that contributed to the low coverage of TB programs was based on the ultrasound results, which was conducted to parties related to the TB program, as mentioned above. As results, it can be noticed that the main problem was that the sputum pot of the suspected TB was not returned (Table 1).

Table 1. Results of Ultrasound in the Southern Regional Health Center in 2019

No.	Problem	U	S	G	Total	Rank
1	Sputum pots of TB suspect patients were not returned	22	20	17	59	1
2	Patients went to the health center to continue the treatment	14	12	11	37	5
3	Lack of patients' awareness for treatment with cough for > 7 days	22	18	17	57	2
4	HC helpers, who mainly review those who were close to the community, were less active in collecting the suspected TB patients	17	16	14	47	3
5	Suspect patients found it difficult to expectorate	13	11	11	35	6
6	Cadres were not optimal in collecting TB suspects	15	12	10	43	4

As for the next stage, the root causes analysis was carried out by in-depth interviews with the person in charge of the related programs. The results were further presented in a fishbone diagram and



for making recommendations and conclusions about these issues (Figure 3).

Figure 3. Fishbone Diagram of Analysis

4. Discussion

Tuberculosis (TB) is a contagious disease caused by *Mycobacterium tuberculosis* bacteria (6). TB is easily transmitted through the air from the source of transmission, namely the positive TB-AFB patients when they are coughing or sneezing. The patients might spread germs into the air in the form of sputum splashes (7) since one cough can produce about 3,000 sputum splashes (8).

Attempts to improve TB case detection rate can be done by the community and all health workers. Efforts and sources from the public may strengthen health personnel so that people/communities can be involved in increasing TB case finding through health cadres, which must be considered as a partner. Health cadres are members of the community who are entrusted to be the manager of public health efforts (9). Attempt to find cases of TB in the community to improve public health is one of the cadres' roles that need to be strengthened through educating them (10). Cadres early detection model for TB is in line with one of the elements in the Stop TB Partnership, an organization to stop TB by empowering patients and communities to reduce their dependence towards health workers in maintaining their health problems (9).

Empowerment is the process of providing information to individuals, families, or groups (clients) consistently and continuously, including following-up the clients' development, as well as the process of helping the client. The empowerment further aims to make the clients from not knowing to knowing or being aware of (the aspect of knowledge), from knowing to willing (the aspect of attitude), and from willing to being able to carry out the behavior that was introduced (the aspect of practices). Therefore, to achieve the target (client), the empowerment can be distinguished into (a) individual empowerment, (b) family empowerment, and (c) groups/communities empowerment (11).

Counseling, additionally, aims to achieve behavioral changes of individuals, families, and groups/communities in developing and maintaining healthy behaviors, healthy environment, as well as playing an active role to achieve optimal health status (12). Health education cannot be separated from the media because the message delivered can be more attractive and understood; hence the target can learn the message and adopt it in a positive attitude (13). Empowerment will be more successful if carried out in partnership and using appropriate methods and techniques (14). Nowadays, there are many non-governmental organizations (NGOs) concerning in the field of health. These NGOs cooperation should be mobilized both among them and between them and the government so that the community empowerment efforts can be effective and efficient. Furthermore, according to the characteristics of the targets, situations, and conditions, they then determined, organized, and used the appropriate methods and communication media (11).

Youth club (*Karang taruna*) is a social organization that helps every member of the community to grow and develop their social awareness and responsibility from, by and for the community (15). The youth clubs involved are then expected to help overcome health problems, especially regarding the TB program indicators of achievement that have not yet been reached.

Based on the problems illuminate previously, the alternate solutions to settle the problem is by giving counseling for the community about the causes and symptoms of TB disease and how to prevent it. Moreover, distributing leaflets to the community, empowering the community organizations such as youth clubs or youth mosque organization (REMAS) to help to find the suspected TB are also the roles of TB cadres, besides giving TB cadre pocketbook.

5. Conclusion

Identification of the problems that has been carried out is based on the data and information obtained from the Health Profiles of the Southern Regional Health Center in the form of PKP Reports in 2018. However, there are several program achievements which are still below the target and can cause other problems, namely Health Promotion, Environmental Health, Maternal Health, Children and Family Planning, Prevention and Control of Diseases Efforts, as well as Occupational Health. The significant problems based on the results of the ultrasound with the program manager in the Southern Region City Health Center scilicet TB (TB program indicators are indicators of all TB cases found and treated, the discovery of suspected TB cases and the success rate of treatment of all TB cases (Success Rate/SR)), P2PTM and the Elderly. Based on the interview carried out with the person in charge of the related programs; thus, it is found that there are several main problems regarding TB with the root

causes of not returned sputum pot. The arisen issues occurring in the field as the result of the in-depth interview do involve not only the person in charge of the TB programs but also the TB cadres in the community. Moreover, some other problems are also found, such as the people's lack of knowledge regarding TB, less active TB cadres, lack of coordination among TB cadres, limitation of people who are willing to become TB cadres, and the time limitation of TB cadres.

6. Limitations of the Study

This study is limited since the authors could not conduct interviews with TB patients directly so that the root cause(s) of the problems can only be viewed based on the existing systems approach (Man, Methode, Material and Money) in the Southern Regional Health Center of Kediri City.

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