

The Utilization of SOSA Bags to Terminate Pulmonary TB Transmission Integrated with DOTS System Treatment Program

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Abstract: Pulmonary TB patients in Medan increased from 5.936 patients in 2012 to 6.541 patients in 2015. Study by Sarumpaet and Syarifah in 2017 showed that SOSA bag containing 5% Lysol and prevention promotion message can reduce the risk of pulmonary TB BTA (+) transmission. DOTS system implemented by the partner has yet to be equipped with a pulmonary TB termination effort and effective promotion. Through Hi-Link community service, an effort to reduce pulmonary TB incident is performed by utilizing SOSA bags being implemented in MoA with Medan Health Office. Furthermore, a MoA is established between Research and Community Service Institute USU with the City Health Office of Medan as the industry partner. The draft of MoA has been created as a result of the community service, social campaign on the utilization of SOSA bags in the Health Office of Medan and implementation by the officer of pulmonary TB in Public Health Center in Helvetia also have been carried out. Social campaign to all the head of Health Center has been given a chance by PT Coca-cola in giving out a CSR fund to produce SOSA bags an MoA between PT Cola-cola and Marelana Health Center and Hi-Link community service team.

1 INTRODUCTION

Tuberculosis (TB) is a communicable disease caused by *Mycobacterium Tuberculosis* (BTA) that comes from sputum patient. Six countries were accounting for 60% of new cases, namely India, Indonesia, China, Nigeria, Pakistan, and South Africa (WHO, 2016).

The estimated prevalence of all TB cases in Indonesia was 660,000 and the incidence estimates was 430,000 cases per year. The number of TB deaths was estimated at 61.000 deaths per year. The number of pulmonary TB new and relapsing cases notification were fluctuating between the years of 2000-2015. In 2015, the notification number of new pulmonary TB cases for Indonesia was 117 per 100,000 population. In 2012, there are 5,936 patients of pulmonary TB in Medan. The number of cured pulmonary TB BTA (+) is 2,286 patients and in 2015, it increased to 6,541 cases (Kemenkes, 2016).

According to a study result of Sarumpaet and Syarifah (2017) concluded a SOSA bag containing

5% Lysol (*4-kloro-alfa-fenilokresol*) and prevention promotion message as well as treatment (image attached) can reduce the risk of pulmonary TB BTA (+) transmission.

The problem of this community service is the increasing incidence number of pulmonary TB in Medan, DOTS system implemented by the partner has yet to be equipped with an effective pulmonary TB termination effort, and the lack of patients' knowledge in terminating pulmonary TB transmission. Through Hi-Link community service, an effort to reduce pulmonary TB incident is performed by utilizing SOSA bags as a media of pulmonary TB termination and being implemented in MoA with the City Health Office (*Dinas Kesehatan*) of Medan.

2 IMPLEMENTATION METHOD

2.1 Implementation Method

This community service is being implemented with the cooperation of Faculty of Public Health (FKM) USU Dean with the City Health Office of Medan Number: 4798/UN5.2.1.10/KPM/2017 and Number: 440/270.51/VII/2017 about the implementation of Tri darma of Higher Education Faculty of Public Health (FKM) USU in the Health Office of Medan City. Furthermore, a MoA is established between Research and Community Service Institute (LPPM) USU with the City Health Office (*Dinas Kesehatan*) of Medan as the industry partner.

2.2 Social Campaign of the Utilization of SOSA Bags in Terminating Pulmonary TB Transmission

Social campaign is being carried out on the decision maker of pulmonary TB in the City Health Office of Medan. Social campaign is conducted by the community service team with lecture, discussion, and Q & A session to introduce SOSA bags as a promotion media in terminating pulmonary TB transmission.

2.3 Social Campaign and Education

The officer of pulmonary TB is socializing and educating pulmonary TB patients on the utilization and benefit of SOSA bags as a media of pulmonary TB transmission termination and increasing the knowledge of pulmonary TB patients. Social campaign is performed when a patient of pulmonary TB BTA (+) is being diagnosed in *Puskesmas* to follow the TB treatment with DOTS program.

2.4 Business Plan Preparation

The community service team is preparing a business plan to supply SOSA bags according to the need of the *Puskesmas*.

2.4.1 The Business Plan of SOSA Bags Procurement

The business plan of SOSA bags procurement is done by the community service in the laboratory of Faculty of Public Health (FKM) USU by preparing facilities, such as:

- a. SOSA bags container
- b. Sticker design and promotion media of SOSA bags.
- c. 5% lysol.
- d. Tanks to fill the SOSA bags container with lysol.
- e. Tissue.
- f. Mask.
- g. Measuring cup.



Figure 1: SOSA Sac Package

2.4.2 SOSA Sac Usage Guideline for Pulmonary TB Patient

- a. Pour 350 ml of 5% Lysol into the SOSA sac.
- b. Place used tissue and disposable mask in the SOSA sac.
- c. After the SOSA sac is full, put the content of SOSA sac in a plastic bag then throw it to the waste disposal.
- d. Next, refill the 5% Lysol into the SOSA sac for future use.
- e. Use the SOSA sac until the *Puskesmas* determine there is no pulmonary TB germs in the sputum.

3 THE RESULT OF COMMUNITY SERVICE

3.1 The Preparation of Memorandum of Agreement (MoA) Draft

The preparation of MoA draft is based on the cooperation of Faculty of Public Health (FKM) USU Dean with the City Health Office of Medan Number: 4798/UN5.2.1.10/KPM/2017 and Number: 440/270.51/VII/2017 about the implementation of Tri darma of Higher Education Faculty of Public Health (FKM) USU in the Health Office of Medan City. Furthermore, a MoA draft is being prepared between Research and Community Service Institute (LPPM) USU with the City Health Office (*Dinas Kesehatan*) of Medan as the industry partner.

3.2 Social Campaign of the Utilization of SOSA Bags in Terminating Pulmonary TB Transmisson

Social campaign is being carried out on the decision maker of pulmonary Tb in the City Health Office of Medan. This activity is conducted by Hi-Link Community Service team with lecture, discussion, introduction and application of SOSA bags as a promotion media as well as Q & A session in terminating pulmonary TB transmission.

3.3 This Social Campaign Activity Was Followed by More or Less 60 Participants Consisting of the Head and Officers of the TBPuskesmas, Program Managers at the City Health Office of Medan

The participants were very enthusiastic in the social campaign, it can be seen from the amount of questions the participants asked. For instance, a question from dr. Eva Sinaga, a representative from *Puskesmas* Medan Labuhan, about whether the dosage of 5% Lisol can kill TB germs or no and if SOSA bags is effective when used by TB MDR patients. The next question by dr. FizaHasibuan from *Puskesmas* DesaTerjun about the resistance of SOSA bags to the Lisol solution.

Moreover, a question by Dirgo Dirmansyah as the Head of HR of City Health Office of Medan, about the SOSA bag testing, has it been tested by the laboratory in the Food and Drug Administration (*Balai POM*) and has it fulfilled the Indonesia

National Standard (*SN*). The fourth question was asked by MasritaTobing, SKM, M,Kes as the Head of Health Problem Control in the City Health Office of Medan about the cooperation with Non-Governmental Organization (*LSM*). Then, the fifth question was asked by Alimudin as an officer of TB *Puskesmas* Pulo Brayan about how to change the behavior of TB patients who were having a tough time throwing sputum in the designated place.

The last question was asked by Drg. Irma Suryani, MKM as the Secretary of City Health Office of Medan about the level of effectivity, economics value, and how long the SOSA bags can be used. All questions were answered and explained by Prof. dr. Sorimuda Sarumpaet. At the time of social campaign, a demonstration of SOSA bags utilization was also being exhibited by the community service team. The impact of social campaign to all heads of *Puskesmas* in Medan have given a chance to one of major beverage companies in Indonesia, which is Coca Cola, who will give their CSR funds to produce SOSA bags, especially to *Puskesmas* Marelان. This will be followed up with a MoA between Coca Cola and *Puskesmas* Marelان.



Figure 2: Social Campaign of the Utilization of SOSA Bags in City Health Office of Medan

3.4 The Implementation by the Officer of Pulmonary TB Puskesmas

For the implementation, a public health center with the highest number of pulmonary TB patients was chosen, which is Puskesmas Helvetia. The officer of pulmonary TB who have received a training in the City Health Office of Medan are given directions by the Hi-Link community service in applying the utilization of SOSA bags to the pulmonary TB BTA (+) patients who visit the public health center. The officer of pulmonary TB is socializing and educating pulmonary TB patients on the utilization and benefit of SOSA bags as a media of pulmonary TB transmission termination and increasing the knowledge of pulmonary TB patients.

Social campaign is performed when a patient of pulmonary TB BTA (+) is being diagnosed in the public health center to follow the TB treatment with DOTS program. The pulmonary TB officers are also trained to evaluate the acceptance and compliance of SOSA bags utilization by pulmonary TB patients.



Figure 3: The Head of Puskesmas Helvetia, TB Officers of Puskesmas Helvetia, TB Patients and Community Service Team during Social Campaign of TB Officers.

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