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Tuberculosis Treatment with Dots Strategy in Independent Practice Doctors as Public-Private Mix a Case Study in Kebumen Regency

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ABSTRACT

Background: Tuberculosis (TB) is still a public health problem that poses a global challenge. This disease is spread through droplets of people who have been infected with tuberculosis bacilli. The incidence of TB transmission is around 5-15%. In Indonesia, the TB Control Program in a national strategy is directed toward universal access to quality TB services, and this can be achieved by involving all health-care facilities. Public-Private Mix / PPM (the collaboration between government services and private services) is the inclusion of all health service facilities in an effort to expand TB services and TB program continuity with a comprehensive approach. Uncomplicated management of pulmonary TB must be resolved by doctors who work in health centers/clinics starting from making clinical diagnoses to managing the disease independently and thoroughly. **Objectives:** This research aimed to find out the implementation, obstacles to the implementation of DOTS strategy TB treatment at independent practice physicians in Kebumen Regency, and the form of a collaborative pattern of DOTS strategy TB treatment between independent practice doctors and health centers as a form of collaboration in Public-Private Mix. **Methods:** This research was a case study with a qualitative descriptive approach. Samples were taken by purposive sampling from Puskesmas and the health department. The total sample of 25 respondents consisting of 4 independent practice doctors, and from the Puskesmas, consisting of 5 Puskesmas heads, 5 TB officers, 5 TB management officers, 3 Health Office officials, and 3 TB patients. **Results:** Most independent doctors diagnose based on clinical symptoms of TB and a small portion supported by chest X-ray. All Puskesmas have implemented TB management with the DOTS strategy, but the results of TB program achievements are still low. This finding is because the number of suspected TB patients is still low. Puskesmas needs networks to find TB suspects. One solution is to form a collaboration scheme between Puskesmas and independent practice doctors to improve TB management. **Conclusion:** The mapping of the implementation and barriers of TB DOTS and the solution to the scheme are through collaboration between Puskesmas and independent doctors in the form of PPM (Public Private Mix).

Keywords: Public-Private Mix, DOTS strategy, Tuberculosis treatment

INTRODUCTION

Tuberculosis (TB) is still a public health problem that becomes a global challenge¹. Tuberculosis is an infectious disease caused by *Mycobacterium Tuberculosis*². About five to fifteen percent of people affected by TB will transmit the disease during their lifetime³. In 1995 National strategy of DOTS is gradually implemented through Puskesmas⁴.

The World Health Organization (WHO) has recommended the DOTS strategy since 1995⁵.

Public-Private Mix / PPM (a mix of private and government services) is the inclusion of all health care facilities in an effort to expand TB services and TB program continuity with a comprehensive approach⁶. The PPM strategy is

reflected in six pillars of basic DOTS services at Puskesmas, public/private hospitals, independent practice doctor, rational OAT, and strengthening of the communication system⁷.

The Indonesian Medical Council (KKI) mentioned that the handling of uncomplicated pulmonary TB is included in the level of 4 A capability which means that doctors as graduates are able to make clinical diagnoses and manage the disease independently and thoroughly⁸.

In 2014 in the world there are 9.6 million new TB patients, of which 5.4 million are male sufferers, 3.2 million are women and 1.0 million are children. TB deaths in 2014 were estimated at 1.5 million, of which 1.1 million are HIV negative and 0.4 million are HIV positive. This mortality rate is divided into 890.000 men, 480.000 women, and 140.000 children. With the right treatment, almost anyone with TB can be cured³.

In the country of Indonesia in 2014 as many as 176677 cases were found and confirmed new BTA+. The highest number found in West Java, East Java and Central Java accounted for 40% of total new cases of BTA+ in Indonesia. The discovery of the above data turns out to be 62% of the total number of pulmonary TB patients in Indonesia⁹.

In Central Java in 2014 the discovery of new pulmonary TB with AFB+ was 61.09% with combined results from Puskesmas, BP4, and hospitals that have implemented TB treatment strategy DOTS¹⁰. In Kebumen Regency in 2015 the number of new patients BTA+ found and treated was 53.2%, with the national target of 70%. Most of the Puskesmas, BP4, and hospitals have implemented TB treatment based on the DOTS strategy. Data for the treatment of TB DOTS strategies undertaken by the independent practicing doctors do not yet exist¹¹.

RESEARCH METHODS

The design of this research was a descriptive case study using a qualitative method approach. Qualitative methodology is a research procedure that produces descriptive data in the form of written and oral records of the people and behavior observed¹². A case study aims to observe contemporary phenomena in the context of real life and is very suitable if the main subject of the research question is pertaining to how, or why and to some extent also can answer the question what¹³. The research was conducted at Ambal I Public Health Center, Buluspesantren I, Mirit, Kutowinangun, Alian and Kebumen Regency Health Office. The informants in this study were the chief doctors of Puskesmas, TB clinic officers at *Puskesmas* laboratories, public health office Kebumen and tuberculosis officials, with total number of 25 people. The informants fulfilled the following inclusion criteria: The chief physician of the Puskesmas who conducts the TB treatment of the DOTS strategy and performs independent practice, the independent practicing physician conducting TB treatment at his practice site, the tuberculosis patient, people who handle the TB program, and all who are willing to participate in this research.

The research used in-depth interview guides with time length between 20-25 minutes and recorded by tape recorder. Data collection was done by the researchers. The results of the research involved editing and coding, then the data were analyzed descriptively. Activities in the analysis include data reduction (data reduction), data presentation (data display) as well as conclusion drawing/verification¹⁴.

RESULTS AND DISCUSSION

1. Implementation of TB Treatment of DOTS strategies in places of independent practicing doctors

For the question of how doctors deal with TB suspected patients among self-care practitioners, the answers are: The most prevalent opinion is to diagnose TB at the practice site largely based on clinical symptoms such as a productive cough for more than two weeks and assisted by X-rays. The following quotation reflects this answer:

“Yes for the time being yes .. if the diagnosis of TB from my own practice is only based on clinical symptoms or clinical diagnosis without any laboratory results and that is also with Rontgen .. that is from clinical symptoms and Rontgen new treatment done” (Head Doctor of Puskesmas).

The main symptom of pulmonary tuberculosis patients is a cough with phlegm for 2 weeks or more. A cough may be accompanied by additional symptoms of sputum mixed with blood, coughing blood, shortness of breath, body weakness, decreased appetite, decreased weight, and fever more than one month¹⁵. Patients with “suspected tuberculosis” coming to health services should be examined by sputum test microscopically⁴.

For the question of how the obstacles to TB treatment of DOTS strategy in the place of independent practicing doctor, the opinion of many respondents is that the sputum examination is a problem because they do not have a laboratory and the analyst’s power and the drugs used for TB treatment need a long time and it is feared to be cut off in the middle of the payments. One quotation reflects such opinions as follows:

“One of them .. diagnosis according to DOTS and if the drug is practiced independently also distress ya ... besides TB is already a national program, and if the price is charged to the residents will distress because the price is high,” (Head Doctor of Puskesmas).

The TB treatment should be adequate in the form of OAT guidance and with sufficient time for at least six months and contain at least 4 kinds of drugs to prevent resistance⁴.

The answers to the question about the role of Puskesmas in the treatment of TB strategy DOTS involves the connection with the practice of independent physicians in the working area. One quotation of respondents’ opinions is as follows:

“Because I have no laboratory in my practice ... then I will MoU for diagnosis with Puskesmas, that

is to send sputum smear from patient suspected of TB to Puskesmas for sputum examination. The second is treatment, where there is a guaranteed availability of medicines for the duration of treatment and the medicine is free. Health centers are putting medicine on the premises according to TB patients” (Head Doctor of Puskesmas).

For the question of how the role of independent practicing physician in the work area of *Puskesmas* in the implementation of TB treatment of DOTS strategy, all respondents said that the role of independent practicing physician in the implementation of TB treatment of DOTS strategy is very important and becomes one of the spearheads in the discovery of suspected tuberculosis, though not currently actively running. One quotation is as follows:

“Because actually, self-employed doctor is a network of Puskesmas and this one of them that has not been applied in all Puskesmas there are some independent practice doctors who already carry out this network but it is still a little yes .. and also the implementation is not maximized ... this is the homework in the future of this PPM framework to be implemented in Kebumen Regency .. hopefully in addition to the case discovery also in the framework of his treatment “(Head of Health Office).

In order to improve the service acceptability, *Puskesmas* is supported by a health service network and health service facility network. The network of health service facilities consists of clinics, hospitals, pharmacies, laboratories, self-employment doctors and others¹⁶. Public-Private Mix (PPM) is a promising strategy for strengthening Tuberculosis services globally. But this is influenced by differentiated contextual charisma¹⁷. This collaboration is also important, since expanding the DOTS Public-Private Mix in the region and improving the quality of TB treatment in both the government and private health facilities will reduce treatment delay and improve the detection of tuberculosis cases¹⁸.

2. Implementation of TB treatment of DOTS strategy in Puskesmas

All respondents said that the *Puskesmas* had implemented TB treatment according to the DOTS strategy; the opinions expressed by the respondents were reflected as follows:

“Thanks to the DOTS strategy TB policy that we have implemented, all service units must implement DOTS strategy and we have implemented both public and private hospitals in UP3 and all Puskesmas in Kebumen regency and currently we have 44 health care unit who have implemented DOTS strategy one PR again Prembun Hospital that is just operating ... it’s homework ahead “(Head of Health Office)

3. Barriers to the implementation of TB treatment of DOTS strategies at Puskesmas

For the question how the treatment of TB treatment of DOTS strategy in *Puskesmas*, the answers reflect that suspected sufferer of TB at *Puskesmas* are low, far from the target which is set, while the network collaboration of implementation of TB programs is not yet maximal for example with doctor practice. The answer to the question about the achievement of the DOTS strategy TB program also shows the achievement is still below target, while all *Puskesmas* have implemented TB treatment of DOTS strategy. The opinions of the following respondents are:

“One of the problems of TB treatment in Kebumen regency is the low suspect hope that suspect can be increased so that the achievement of BTA + will increase .. hope that suspect networking can be done by all health service provider component in this region ... yes doctor practice or Independent midwife ... or other health facilities in the area of this health center for now, this component has not been clearly visible” (Head Doctor of Puskesmas)

There is a hope of research informants from *Puskesmas* to be able to establish a cooperative relationship with independent practice physicians so that can give significant result in TB control program of DOTS strategy in *Puskesmas*. PPM has been able to improve case detection and treatment outcomes among patients seeking care with private providers¹⁹. Collaborative efforts between private and government practitioners can moderate low case detection and increase the success rate of TB treatment²⁰.

4. The collaborative pattern of TB treatment implementation of DOTS strategy among self-employed physicians and Puskesmas in Public-Private Mix.

All the respondent’s answers encourage or suggest for the existence of collaboration and cooperation between *Puskesmas* and doctors of independent practice to overcome the deficiency in each health care unit. The form of collaboration is reflected in the following interview quotation:

“For the framework of this collaboration so it is very possible for Mr. Arif because based on Permenkes no. 75 which is about the Puskesmas even self-practicing practice practitioners in the area of the Puskesmas must be a network of health centers in this case related to the TB program, of course, there is a doctor first MOU From Puskesmas and local self-help doctors who for the diagnosis can be in the doctor’s independent practice then associated with pot and pot sputum facilities and medicines can be prepared from the health center concerned for example there is a suspect to the doctor independent practice there is no laboratory to check it means to be referred to check it to the clinic for the examination after the results of the examination get returned to the doctor if it is positive and needs treatment .. we can be in the Puskesmas drug program that we have

prepared and implemented for free. Because some patients are already thinking with their doctors, for example, I only want to seek treatment with Mr. Arif ... but the medicine from Puskesmas is okay.
 “(Kabid Dinkes Kebumen).

There is need for collaboration between private and governmental parties in the success of controlling the DOTS strategy Tuberculosis in the form of a Public Private Mix (PPM) whereby independent practitioners can reduce the delay in diagnosis and treatment of TB and also reduce the financial burden of patients, but the strategy needs to be set by the proper health authorities to engage it²¹. Collaboration has also led to a tendency to increase detection of cases related to the Public Private Mix (PPM) and to demonstrate the benefits of PPM to improve case detection²². So, in general, self-employed physicians have great potential in finding the TB suspects (case finding) and their treatment, in sputum examination and program drug availability when compared to Puskesmas.

The establishment of cooperation/collaboration between Puskesmas and self-practicing doctors is important and must be implemented in this JKN era where the patients/communities have their own registration in each of the first-level health facilities (Puskesmas, clinic, self-doctors) so that there is no friction between first level health facilities in the field in providing services and search for participants (seizure of patients). The health service providers cover all health facilities in collaboration with BPJS Health in the form of first-rate health facilities and advanced health reference facilities. First-level health facilities in collaboration with BPJS Health should provide comprehensive health services. In the provision of comprehensive health services, health facilities that do not have supporting facilities must build a network with supporting facilities¹⁶. In the case of necessary support services, additional support services as above can be obtained through referrals to other supporting facilities.

The scheme of collaboration between Puskesmas and physician independent practice:

No	Activities	Puskesmas	Self-practicing doctors
1	Suspected TB screening		+
2	Sputum examination for diagnosis	+	
3	Classification Diagnosis		+
4	Treatment		+
5	Logistics drug package/ program	+	
6	Clinical consultation		+
7	Check for back sputum	+	
8	Monitoring treatment by PMO	+	
9	Recording and Reporting	+	+

CONCLUSION

From the research some conclusions can be drawn as follows. Practitioners recommend self-administered TB treatment with clinical diagnosis and sometimes are assisted by x-ray examination, while there is lack of laboratories and analysts in place of practice as well as the limited availability of standard TB drug packs. Puskesmas has already implemented TB treatment with DOTS strategy, where the suspects are still small so that the coverage of the detection of TB patients is also low. Due to the inactivity of the Puskesmas service network and the health facilitation network of the health services of the Puskesmas, there is need for collaboration between the independent practice physicians and the Puskesmas to overcome the weaknesses and deficiencies of each TB management strategy DOTS, through the formation of a role-sharing scheme in this collaboration.

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Ethical Approval and Informed Consent

The study was approved by The Medical and Health Research Ethics Committee (MHREC) from the Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta.

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Availability of Data and Material

Data and material can be accessed via the corresponding author.

Conflict of Interest

None.

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