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## Study of Tuberculosis (TB) Management Documentation with Directly Observed Treatment Short Strategy Course (DOTS) in Puskesmas, Hospital, and Lung Disease Treatment Unit (UP3)

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### ABSTRACT

In 2009, the WHO recommended that pneumonic tuberculosis (TB) has been a worldwide crisis for people since 1993, with the burden of TB malady within the community still exceptionally tall. It is evaluated that there are approximately 9.5 million modern TB cases and almost 0.5 million passings caused by TB around the world. The WHO Worldwide Tuberculosis Report in 2015 expressed that TB remains a major wellbeing issue, in spite of being a preventable and treatable malady. The WHO Worldwide Tuberculosis Report in 2016 contended that TB has existed since the primary thousand years and proceeds to be a global health issue. Checking and assessment are among the foremost crucial administration capacities to survey the victory rate of TB program execution. The presence of normal and continuous observing capacities permits early location of issues within the usage of arranged exercises, empowering incite adjustments. Assessment too serves as an assessor to decide to what degree the foreordained destinations and results have been accomplished by the conclusion of the time period. Pointers and benchmarks are required in conducting victory appraisals. The strategy of record think about, in spite of the fact that at first once in a while considered in subjective inquire about techniques, is presently an vital and necessarily portion of subjective inquire about technique. Usually due to the developing mindfulness and unused understanding among analysts that a parcel of information is put away within the frame of documents and artifacts. Hence, the extraction of information sources through report thinks about gets to be complementary to the subjective inquire about handle. Indeed Guba, as cited by Bungin, states that the validity level of subjective investigate comes about is decided by the utilize and utilization of existing archives. The comes about appeared that all wellbeing offices within the Puskesmas, clinics, and UP3 had implemented TB administration with the Specks procedure. In common, the execution of the five Specks columns at the Puskesmas was superior than at the clinics and UP3, but the supporting archives for Specks column usage in healing centers and UP3 were more total. The achievement of the Specks program at the wellbeing benefit offices, as appeared by this inquire about, shows that the Puskesmas performed way better than the clinics and UP3.

**Keywords:** *DOTS, study document, tuberculosis*

### INTRODUCTION

WHO (2009) suggests that pulmonary TB is a global emergency for humans since 1993<sup>1</sup>. Where the burden of TB disease for humans in the community is still very high, it is estimated that there are still about 9.5 million new TB cases, and about 0.5 million deaths caused by TB worldwide. WHO Global Tuberculosis Report (2015) states that TB is still a major health issue even though TB is a preventable and treatable disease<sup>2</sup>. WHO Global Tuberculosis Report (2016) argues that TB has existed from the first millennium to the millennium and is still a global health problem<sup>3</sup>.

In 2011 the World Health Organization (WHO) noted that there have been significant improvements in TB control that can be demonstrated by the decline in case-finding rates and the fatality rate caused by TB in the last two decades.

The incidence of TB globally, fell at a rate of 2.2% in 2010-2011. TB occurring between 2010-2011 is estimated to reach 8.7 million (in this case including 1.1 million with HIV coinfection) and 990,000 people die due to TB. The percentage of TB patients who knew HIV status among HIV-infected patients increased from 2009-2014. This is inversely proportional to the percentage of HIV-infected TB patients receiving ART decreased from 2012-2014.

Monitoring and evaluation is one of the most vital management functions to assess the success rate of TB program implementation. The presence of regular and ongoing monitoring functions to detect problems early in the implementation of planned activities so that they can be fixed as soon as possible. This evaluation also serves as an assessor to the extent to which the objectives and outcomes

have been established beforehand, whether they have been achieved At the end of the time period. In conducting the assessment of success is required indicators and standards.

The purpose of this study is to assess the document side compared to standard guidelines for the implementation of TB treatment with the DOTS strategy. In addition, to identify the inhibiting factors and factors supporting DOTS strategy in Fasyankes implementing DOTS program.

## METHODS

This research is a document analysis research. According to Burhan Bungin (2007) "Documentary method is one method of data collection used in social research methodology to browse historical data"<sup>4</sup>. While Sugiyono (2007) states that the Document is a record of events that have been passed in the form of writing, drawings, or the monumental works of a person<sup>5</sup>.

Document analysis methods, although initially rarely considered in qualitative research methodologies, are today an important and integral part of the qualitative research methodology. This is due to the growing awareness and new understanding in the researchers that a lot of data is stored in document form. So the extracting of data sources through document analysis becomes complementary to qualitative research process. Even Guba as quoted by Bungin (2007) states that the credibility level of a qualitative research result is determined by the use and use of existing documents.

The location of the research was conducted at DOTS strategy implementation facility throughout Kebumen District, Central Java Province, Indonesia. The subjects in this study are all the implementing facilities of the DOTS strategy in Kebumen District. There are 44 UPK executor of DOTS strategy consisting of Puskesmas 35, Lung Disease Treatment Unit 1, and hospital 8 Before the data collection, the researcher prepares check list of question to assess the implementation of 5 pillars of DOTS of health service facility. The plan researchers will be assisted by enumerators in performing data collection Health facilities. The enumerators come from TB programmers in puskesmas and hospitals that were previously trained in data collection with checklist guidelines. The enumerator is also in charge of conducting interviews with the leadership of the health facilities to confirm the data contained on the checklist. The researcher also used the minutes and tape recorder in the form of a small microphone that was communicated with informants. In the data analysis, the researcher will be assisted by 4 coders consisting of 2 students of IKK, 1 District TB programmer and 1 experienced lecturers. Activities in the analysis include data reduction, data presentation and Conclusion drawing / verification.

## RESULTS

The results showed that the puskesmas had the value of implementing the five best DOTS pillars compared to hospitals and UP3.

**Table 1 : Evaluation of the implementation of 5 DOTS pillars and TB program outcomes**

No	Health Facility	DOTS pillars										Outcome	
		Commitment ( Pillar 1)		Case Detection ( Pillar 2)		Treatment ( Pillar 3)		Supervisor Swallowing Drug (Pillar 4)		Registration ( Pillar 5)		Cure Rate (%)	DropOut (%)
1	Puskesmas	Good	9	Good	7	Good	3	Good	8	Good	3	87,6	1,5
		Enough	5	Enough	9	Enough	23	Enough	8	Enough	12		
		Less	21	Less	19	Less	9	Less	19	Less	20		
2	Hospital	Good	5	Good	5	Good	3	Good	4	Good	3	76,5	16
		Enough	2	Enough	2	Enough	2	Enough	1	Enough	4		
		Less	1	Less	1	Less	3	Less	3	Less	1		
3	UP3	Good	1	Good	1	Good	0	Good	0	Good	1	82,5	15,5
		Enough	0	Enough	0	Enough	1	Enough	1	Enough	0		
		Less	0	Less	0	Less	0	Less	0	Less	0		

Based on the above table obtained data that most of the puskesmas still have less value in the implementation of 5 pillars DOTS. As many as 21 puskesmas (60%) have less commitment, 5 puskesmas (14,3%) enough and 9 puskesmas (25,7%) have good value. While for the hospital it is found that 5 hospitals (62,5%) have good commitment, 2 hospitals (25%) enough and 1 hospital (12,5%) less. In the second pillar evaluation at the puskesmas, 7 Puskesmas (5,7%) showed good, 9 Puskesmas (25,7%) and 19 puskesmas (54,3%) less. In the third pillar evaluation, 3 puskesmas (8,6%) got good score, 23 puskesmas (65,7%) enough and 9 puskesmas (25,7%) less.

In the fourth pillar evaluation, there were 8 puskesmas (22,9%) good, 8 puskesmas (22,9%) and 19 puskesmas (54,3%) less. In the evaluation of the fifth pillar of 3 puskesmas (8,6%) good, 12 puskesmas (34,3%) enough and 20 puskesmas (57,1%) less. While the evaluation result of TB program achievement Kebumen Regency in 2016 showed healing 87,6% and drop out 1,5%. For the hospital group, the results of the first pillar evaluation were 5 hospitals (62,5%), 2 hospitals (25%) and 1 hospital (12,5%) less. Evaluation of the second pillar found 5 hospitals (62,5%) good, 2 hospitals (25%) enough and 1 hospital (12,5%). Evaluation of the third pillar showed 3 hospitals (37,5%) good, 2 hospitals (25%) enough and 3 hospitals (37,5%) less. Evaluation of the fourth pillar showed 4 hospitals (50%) good, 1 hospital (12,5%) enough

and 3 hospital (37,5%) less. The results of the fifth pillar evaluation showed 3 hospitals (37.5%) good, 4 hospitals (50%) sufficient and 1 hospital (12.5%) less. While the results of the evaluation of Kebumen Regency TB program achievement in 2016 showed 76.5% recovery and 16% drop out.

UP3 obtained data that pillar one good, pillar two good, pillar three enough, pillar four enough and pillar five good. While the results of evaluation of TB program achievement Kebumen district in the year 2016 showed 82.5% cure and drop out 15.5% . Data on the success of TB programs with DOTS strategy dipuskesmas better than hospitals and UP3. Based on the achievement of the Cure Rate and drop out rate, the best is at the puskesmas. However, when viewed from the administrative side of the hospital group and UP3 showed better results. Evaluation shows that there are still many things that need to be improved in the implementation of five DOTS pillars. The results of this study are in accordance with the research conducted Kasim et al (2011) which concluded that from 10 puskesmas in Subang district found some obstacles such as lack of laboratory facilities, lack of human resources, cross-sectoral cooperation, drug adherence, , Economic factors and low public education, delayed drug distribution, difficulty in recording and reporting of moving and moving patients<sup>6</sup>.

## DISCUSSION

One of the things that determine the success of TB disease management is the adherence of TB patients to follow treatment according to the standard. Compliance in the management of TB becomes crucial in healing TB. Compliance is the main cause of treatment failure, drop out and increasing cases of MDR. Adherence is also key to improving treatment cure rates in TB patients. Several factors have been reported in different populations related to non-treatment adherence, are economic status (low-income patients), alcoholism, HIV co-infection, male gender, homeless patients and low levels of knowledge and interest in treatment. Despite the high efficacy of a drug regimen recommended by WHO, adherence to treatment is one of the obstacles that must be identified to achieve TB program control objectives. According to WHO Adherence to long-term therapies (2013) non-adherence to treatment may increase the risk of standard morbidity, mortality, and resistance<sup>7</sup>. Lack of inadequate treatment, irregular medication and improper selection of OAT are the cause of standard treatment having the possibility of drug resistance (Jain and Dixit, 2008)<sup>8</sup>.

According to Green (1980), human behavior departs from the health level<sup>9</sup>. That the health of a person or society is influenced by two main factors, namely behavioral factors (Behavior causes) and factors outside behavior (Non behaviour causes). One's behavior is influenced by predisposing factors, enabling factors and reinforcing factors. The existence of facilities and infrastructure or facilities for the occurrence of health behaviors such as health centers, posyandu and hospitals are enabling factors that affect the behavior change of TB patients to comply with the recommended treatment process.

WHO Adherence (2003) concluded that adherence was influenced by socioeconomic factors, patient-related factors, regimen complexity, supportive relationships between healthcare providers and patients and patterns of health care delivery<sup>10</sup>. Patient satisfaction with service providers Health is considered "significant" to be an important factor of adherence, but empathic relationships are difficult to obtain in situations where untrained, overworked, untrained or unaccounted support providers Which is common in countries with high TB burden.

Clinical services organizations, including the availability of experts, relationships with patient support systems and flexibility in hours of service also affect adherence to treatment. Many outpatient providers provide good care for TB patients with acute complaints, but many staff do not have the skills required to develop long-term, planned management with patients. As a result, the patient's role in self-management is not facilitated and does not get good follow-up.

Many causes of non-adherence factors are irreversible, and the relationship between the various variables such as gender, age group or not illiteracy and compliance can not logically improve the situation. Further demographics, social factors and other patient characteristics often correlate poorly with patient intent or motivation and can not explain why some TB patients adhere to treatment, despite having some unfavorable characteristics. Patients with TB seem to fluctuate in the intensity of their motivation to complete their treatment and admit defaults over and over again during their long journey of therapy (Dick et al., 1996)<sup>11</sup>.

Another reason why puskesmas have higher cure rate and drop out rate is lower than hospital and UP3 is probably due to PMO factor. According to Permenkes number 75 year 2016, puskesmas is responsible for the implementation of health development in the region. With this concept every region has health workers who foster and supervise the implementation of health programs in the region. The presence of village midwives, nurses, community health centers, *Poli Klinik Kesehatan Desa* (PKD), *posyandu* and health volunteers can function to capture, monitor and develop people with pulmonary TB. Health workers present in the target area may act as pulmonary TB PMO. So that the compliance of pulmonary TB patients who seek treatment at puskesmas will be better because there is a Drug Swallowing Pengawas close to the patient<sup>12</sup>. Unlike hospitals and UP3 that do not have a target area it is more difficult to monitor the presence of TB patients and to monitor the treatment process.

Supervisor Swallowing Drug (PMO) for TB patients is one of the factors that can improve TB treatment adherence and treatment. There are several factors that affect the recovery of TB patients, ie patient factors (medication adherence, fasyankes and drug resistant TB), PMO factor (no PMO or PMO but lack of monitoring) and drug factor<sup>13</sup>.

A cohort study in Tanzania showed that supporter treatment (PMO) may increase cure rate and succes rate in the treatment of smear positive pulmonary tuberculosis

patients. However, no significant differences were found on the effect of PMO characteristics on the recovery of TB patients. Studies in Zimbabwe showed treatment supporters (PMO) had a good effect on achieving cure rates (72%), decreased the effect of lost follow-up (1%) and reduced treatment failure (1%). Supervisor Swallowing Drug (PMO) may come from families, health workers and trained personnel. There were no differences in treatment outcomes based on PMO. A case-control study in Shaanxi province, China in 2010 showed that TB patients with PMO had a greater cure rate (84.2%) than without PMO ((71.6%). Meanwhile, when doctors become PMO give the cure rate of 88.3%, greater than if the family becomes the PMO (80.1%).

## CONCLUSION

From the research that has been implemented, can be taken some conclusions:

1. All health facilities in Puskesmas, hospitals and UP3 have followed TB management with DOTS strategy<sup>14</sup>.
2. In general, the implementation of five DOTS pillars at the puskesmas is better than in hospitals and UP3, but supporting documents on DOTS pillar implementation in hospitals and UP3 are more complete.
3. Achievement of DOTS program in health service facility conducted by research shows that puskesmas better than hospital and UP3<sup>15</sup>

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## Ethical Approval and Informed Consent

Recommendation from the Chairman of Stikes Muhammadiyah Gombong Research Ethics Committee on ethical clarity (Ethical Clearance)

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## Availability of Data and Material

Data uses document analysis.

## Conflict of Interest

The authors declare that they have no Conflicts of Interest.

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