

**ARTIKEL RISET**URL artikel: <http://jurnal.fkmumi.ac.id/index.php/woh/article/view/woh5310>**Tuberculosis Drugs Supervisor Roles Improved The Tb Recovery
At The Community Health Center In Kupang City**^KPius Selasa¹, Margaretha Teli², Ni Made Merlin³, Aris Wawomeo⁴, Joel Rey U. Acob⁵^{1,2} School of Nursing, Health Polytechnic of Kupang³ School of Nursing, STIKES Maranatha Kupang⁴ School of Nursing, Health polytechnic of Kupang, Paupire, Ende Tengah⁵ Faculty of Nursing, Visayas State University, PhilippinesEmail Penulis Korespondensi (^K): piusselasa@gmail.com
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(081353247976)**ABSTRAK**

Tuberkulosis merupakan salah satu penyakit kronis dan menular yang masih menjadi masalah utama kesehatan hingga saat ini. Penyebaran penyakit ini diakibatkan dari adanya kontak dengan bakteri tersebut melalui droplet. Strategi program penanggulangan tuberkulosis di Indonesia menggunakan strategi DOTS (directly observed treatment shortcourse) dimana pasien akan dicari dan diobati hingga sembuh. Penanggulangan yang telah ditetapkan tercapai pada tahun 2017 mencapai angka 85% tetapi angka penanggulangan tidak seiring dengan tingginya angka kesembuhan. Terjadi gap atau kesenjangan dengan angka kesembuhan hal tersebut dibuktikan dengan angka hasil pengobatan tuberkulosis kategori sembuh hanya mencapai 42.0%. Penderita juga membutuhkan Pengawas Minum Obat (PMO) yang dapat berasal dari perawat, bidan, ibu PKK, anggota keluarga maupun kader kesehatan. Peran PMO yang telah dijelaskan tersebut dapat meningkatkan angka kesembuhan hingga 80%. Tujuan dari penelitian ini adalah untuk melihat adanya hubungan antara peran PMO dalam kesembuhan pasien tuberkulosis. Penelitian ini merupakan jenis penelitian kuantitatif dengan desain penelitian cross-sectional. Sampel dalam penelitian ini adalah sebanyak 96 pasien tuberkulosis yang telah menyelesaikan program pengobatan dengan teknik pengambilan sampel yang digunakan dalam penelitian ini adalah purposive sampling. Skala data dalam penelitian ini adalah kategorik dan data hasil penelitian dalam penelitian ini diuji menggunakan uji chi-square atau kai kuadrat untuk melihat beberapa peran dalam kesembuhan pasien tuberkulosis. Hasil uji statistik mendapatkan nilai p-value 0.000 yang artinya ada hubungan antara kunjungan PMO, pendampingan minum obat, informasi kesehatan, anjuran pemeriksaan ulang dahak dan juga pendampingan selama pengambilan OAT dengan hasil pemeriksaan BTA negatif (-).

Kata kunci : Peran Pengawas Minum Obat; Tuberkulosis; Kesembuhan Pasien.

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ABSTRACT

Tuberculosis is a chronic and infectious disease that is still a major public health problem. The spread of this disease is caused by contact with infected droplets. The strategy of the tuberculosis control program in Indonesia uses the directly observed treatment short-course (DOTS) strategy in which patients will be sought and treated until they are cured. The treatment that has been set has been achieved in 2017 reaching 85% but the number of prevention is not in line with the high rate of cure. There is a gap or gap with the cure rate, this is evidenced by the rate of treatment for tuberculosis in the cured category only reaching 42.0%. Every patient also needs Drug Drink Supervisor (called PMO) who can be nurses, midwives, family members, and health cadres. The role of the TB Drugs Drink Supervisor that has been described in many studies can increase the cure rate by up to 80%. The purpose of this study was to identify the relationship between the role of PMO in the recovery of tuberculosis patients. This research was a cross-sectional research design. Purposive sampling was used to determine the 96 tuberculosis patients who had completed the treatment program. The chi-square was used to identify the relationship between the variables. The study found that there is a relationship between the role of TB drug supervisors (conducting home visits, accompaniment during anti-tuberculosis drug swallowing, providing health education, encouragement of sputum re-checking, and accompaniment during taking anti-tuberculosis drugs in public health centers) with patient recovery ($p=0.000$). When the TB Drug Drink Supervisor performed well in all roles, it will motivate the TB patients to follow the treatment recommendation and facilitate TB recovery.

Keywords : The Role of Drug Supervisor; Tuberculosis; Patient Recovery.

INTRODUCTION

Pulmonary Tuberculosis (TB) is a chronic and contagious disease that is still a major health problem nowadays. TB is caused by a type of bacterium called mycobacterium tuberculosis which primarily affects the respiratory system.¹ The spread of this disease is caused by contact with infected droplets from a person with active TB disease. The World Health Organization (WHO) estimated that one-third of the world's population has been infected. Most cases were reported in developing countries which accounted for around 95% of incidence and 98% of mortality.¹ While in the Southeast Asia region, the number of cases accounted for around 45% and 25% in the African region.²

While, In Indonesia, according to the National basic health research report (2019), the incidence rate was reported as about 245 per 100,000 population from the previous 254 per 100,000 population or 25.40 per 1 million population in 2017.² The national target of TB prevention and control has been set up to increase every year by 30% in 2020, while in 2023, perhaps to increase around 50%, 80% in 2030 and the prevention rate will reach 90% in 2035. In 2017, the prevention target had been reached around the vicinity of 85%, however, the response rate is not in line with the high recovery rate. There was a gap in the cure rate which was evidenced by the rate of tuberculosis treatment outcomes in which the cured category only reached 42.0%.²

This gap affected the transmission of the disease. Several factors that affect the low recovery rate included the quality of the evaluation process, moving frequently, missing from observation, and TB treatment package failure.^{2,3} Some of these factors are related to the role of TB health cadres who have been trained to monitor TB patients within the community.

The strategy of the tuberculosis control program in Indonesia uses the directly observed treatment short-course strategy (DOTS) in which patients will be sought and treated until they are cured.⁴

Patients also need TB Drugs Drink supervisors who are nurses, midwives, Family health empowerment (PKK) mothers, family members, and health cadres.^{5,6} The main roles of the drug supervisor are to monitor and supervise the side effects of TB drugs, provide education to patients and their families as well as report to the public health center (4). A study conducted in Bangladesh found that the existence of the TB health cadre increased the cure rate by up to 80%.⁷ Therefore, the role of the TB drugs drink supervisor needs to be regularly evaluated to determine the achievement of the cure rate of Tuberculosis. Based on a preliminary study that has been carried out, it was found that some patients forgot to take their medicine not according to schedule, so they were assisted by a drug-taking supervisor to take their medicine according to schedule. The purpose of this study was to identify the relationship between the role of TB drug drink supervisors and the recovery of tuberculosis patients.

METODE

This study was a quantitative research with a cross-sectional research design.⁸ The sample was 96 tuberculosis patients at the community health center in Kupang city. Purposive sampling was used as a sampling technique because the patient has been registered at the primary health service. so that the researcher already has initial data and carries out research in accordance with predetermined criteria.. The inclusion criteria were patients with tuberculosis who have completed the treatment program, teenagers and adults, undergoing treatment at the Public Health centers, and Kupang city's residents. Patients with cognitive impairment and complications were excluded from this study.

The data collection carried out used a set of questionnaires which consists of demographic data, and several statements to assess the role of TB Drugs drink supervisor. The assessment focused on their activities, whether they performed the activities; did home visits, monitored the medicines, provided health education, and facilitated re-examination of sputum and chest x-ray. Furthermore, the sputum culture or BTA examination was used to determine the TB recovery. The chi-square was used to evaluate the relationship between independent (the roles of TB drug supervisors) and dependent variables (the TB recovery) with a statistical significance with 95% confidence intervals. A value of $p < .05$ was considered statistically significant.

The study was conducted after receiving an exempt determination from the IRB of the health polytechnic of Kupang where the researcher belongs (IRB No. LB.02.03/1/0075/2020.). This study also applied the principles of research ethics; autonomy, anonymity, and non-maleficence.⁹ Where respondents had the freedom whether or not to participate in the study after giving informed consent and anonymity.¹⁰

RESULT

Table 1. Characteristics of TB drugs drink supervisor at the Public Health Center in Kupang City, East Nusa Tenggara Province, 2020

	Variables	Frequency	Percentage
Age	Teenager	5	5.2%
	Adult	91	94.8%
	Total	96	100%
Gender	Male	28	29.2%
	Female	68	70.8%
	Total	96	100%
Education	Primary Education	6	6.3%
	Middle Education	72	75.0%
	Higher Education	18	18.8%
	Total	96	100%
Job	Not-Working	53	55.2%
	Working	43	44.8%
	Total	96	100%
Drug supervisor status	Main Family	77	80.2%
	Another Family	18	18.8%
	Health Workers	1	1.0%
	Total	96	100%
Residence Distance	< 1 Km	67	69.8%
	>1 Km	29	30.2%
	Total	96	100%
Training	Not Getting Training	54	54.2%
	Getting Training from Health Workers	42	43.8%
	Getting Training from NGOs	2	2.1%
	Total	96	100%

The study findings indicated that most of the drug drink supervisors were adults (94.8%). The majority of drug supervisors were female with a percentage of 70.8%. Regarding their education and their job, 75% of them were having secondary education level, and 55.2% % were not working. The vast majority of drug supervisor was from main family members (80,2%), Moreover, the distance from home to health care facilities was less than 1 kilometer for about 69,8%. Most of them were not trained (54,2%).

Table 2. Role of TB drugs drink supervisor at the Community Health Center in Kupang City, East Nusa Tenggara Province, in 2020

	Variables	Frequency	Percentage
Conducting home visits	Always	89	92.7%
	Sometimes	3	3.1%
	Never	4	4.2%
	Total	96	100%
Accompaniment during anti-tuberculosis Drug Swallowing	Always	83	86.5%
	Sometimes	9	9.4%
	Never	4	4.2%

	Total	96	100%
Providing Health Education	Always	72	75.0%
	Sometimes	19	19.8%
	Never	5	5.2%
	Total	96	100%
Encouragement of sputum re-checking	Always	81	84.4%
	Sometimes	11	11.5%
	Never	4	4.2%
	Total	96	100%
Accompaniment during taking anti-tuberculosis drugs in public health centers	Always	72	75.0%
	Sometimes	20	20.8%
	Never	4	4.2%
	Total	96	100%

The study found that 92,7% of TB drug supervisors always do home visits, and 86,5% of them always conduct their roles to accompany TB patients during anti-tuberculosis Drug Swallowing. Regarding the providing health education, it was accounted for around 75% who always perform the health education regarding TB, 84,4% always encouraged to re-checking the sputum for evaluation, and 75% of them who always accompanied TB patients during taking anti-tuberculosis drugs in public health centers.

Table 3. Results of Sputum Examination at the Public Health Center at the end of the Treatment Program in Kupang City, East Nusa Tenggara Province, 2020

	Variables	Frequency	Percentage
BTA	Positive (+)	5	5.2%
	Negative (-)	91	94.8%
	Total	96	100%

The findings showed the vast majority of Tuberculosis patients in Kupang city 94.5% were declared cured with a negative BTA at the end of TB treatment period according to national standard.

Table 4. The Relationship between the Roles of TB drug drink supervisor with Tuberculosis Patient Recovery

	Variables	Results of Repeat Sputum Examination		p-value
		BTA (+)	BTA (-)	
Conducting home visits	Always	1	88	0.000
	Sometimes	0	3	
	Never	4	0	
	Total	5	91	
Accompaniment during anti-tuberculosis Drug Swallowing	Always	1	82	0.000
	Sometimes	0	9	
	Never	4	0	
	Total	5	91	
Providing Health Education	Always	1	71	0.000
	Sometimes	0	19	

	Never	4	1	
	Total	5	91	
Encouragement of sputum re-checking	Always	0	81	0.000
	Sometimes	1	10	
	Never	4	0	
	Total	5	91	
Accompaniment during taking anti-tuberculosis drugs in public health centers	Always	0	72	0.000
	Sometimes	1	19	
	Never	4	0	
	Total	5	91	

A chi-square test was applied to examine the relationship between the roles of TB drug supervisors and the TB patient's recovery. The findings revealed the roles of TB drugs supervisor which consist of Conducting home visits, Accompaniment during anti-tuberculosis Drug Swallowing, Providing Health Education, Encouragement of sputum re-checking, and Accompaniment during taking anti-tuberculosis drugs in public health centers had a significant relationship with the TB patient's recovery which measured by the result of sputum at the end of TB treatment with $p=.0000$

DISCUSSION

Tuberculosis Drug Drink Supervisor has a role as a direct supervisor in consuming drugs. TB Drug supervisors are people who are willing to help the TB patient, have a strong commitment to monitor and take care of the TB patients, live around the patient's houses, have been trained, and could be health cadres, family members, and other relates.^{7,11} The purpose of the PMO is also to ensure that the patient is taking the medicine correctly and also to fill in the patient's treatment card that has been provided by the public health centers.

The study found that the majority of drug supervisors performed well in each role and had a significant correlation with the TB patient's recovery. In terms of doing a home visit, Patients who were regularly visited by drug supervisors developed their positive motivation to take medicine completely and increase their obedience to the treatment. The purpose of doing a home visit is to directly supervise the swallowing of TB drugs to ensure that TB patients take anti-tuberculosis without missing.¹ Moreover, the TB drug supervisor has a crucial role to ensure and assist to prevent TB patients from stopping treatment because the patient's condition has improved^{12,13}, to monitoring and reporting the side effects of the drugs to health workers and to supervise the progress of the patient control card.⁷

However, there are still 5 patients who were found positive at the end of the treatment period. Several cases were found in patients who failed to stop taking medication because they felt healed.¹⁴ Indonesia Basic Health Research found that 2.7% of tuberculosis patients were not supervised, evaluated, and reported well.² Those situations lead to the failure of TB treatment which accounted for 5.2% of patients still were positive. It might be assumed that they did not take the medicine regularly

Boy in his reaserch mentioned that TB drug swallowing supervisors who did home visits had a positive correlation in monitoring and evaluating patient treatment which then improved the healing of tuberculosis patients.¹⁵ Moreover, the study also illustrated that frequent visits by TB cadres had a positive impact on the high cure rate of tuberculosis patients. This is evidenced by the high number of negative smear results.

The results of this study are supported by previous research conducted by Khairunnisa (2019) which identifies the factors that affect the recovery of pulmonary tuberculosis patients in the Langkat District Health Center. The study found that there was a significant relationship between medication adherence and the recovery of tuberculosis patients. It was found that the odds ratio of 3.7 from the multiple regression test explained that patients who did not adhere to medication were 3.7 times more likely to suffer from the disease than those who adhered to medication.¹⁶

Another important role of TB drug supervisors is related to providing health education¹⁷ for tuberculosis patients and their families.¹⁸ The result of this study found that 75% of them facilitated and provided information for the patients and families. The results of this supported the previous research conducted by Yani (2018) in Bandung Kulon District which states that TB cadres who have been trained had a positive impact on TB patient's recovery.⁷ A previous study mentioned that in order to increase their confidence to provide information, they must be trained before and will be provided with health education tools such as pamphlets and booklets. The training provided them with the basic information on disease concepts, and also communication skills.⁷ One of the health information that should be provided is the sputum re-examined which aims to evaluate the patient's condition and health status.¹

CONCLUSION AND RECOMMENDATIONS

The roles of drug-drinking supervisors had a significant role in the recovery of tuberculosis patients. TB drug supervisors have various types of roles including Conducting home visits, Accompaniment during anti-tuberculosis Drug Swallowing, Providing Health Education, Encouragement of sputum re-checking, and Accompaniment during taking anti-tuberculosis drugs in public health centers. It is recommended that improving the quality of TB drug supervisors by training will increase the TB patient's recovery. By conducting their roles, it will motivate the TB patients for following the treatment recommendation. The potential future study will be to analyze other factors that affect Tuberculosis recovery including nutritional status, social factors, and environmental factors in tuberculosis patients who still have positive smears after treatment.

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