RELATIONSHIP BETWEEN MEDICATION ADHERENCE MONITORING PRACTICES (PMO) AND MEDICATION COMPLIANCE IN TUBERCULOSIS PATIENTS AT THE SIDOMULYO COMMUNITY HEALTH CENTER IN PEKANBARU CITY

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Abstract

Tuberculosis is a disease that is deadly in the world. Tuberculosis is caused by Mycobacterium, Tuberculosis which belongs to acid-resistant aerobic bacteria and is usually spread from one person to another through droplets when talking and coughing. Medication Swallowing Supervisor (PMO) is a person who who ensures the regularity of treatment so that patients can patients can recover and succeed in treatment. The purpose of this study was to determine the relationship between the practice of drug swallowing supervision (PMO) with adherence to medication adherence to taking medication in Tuberculosis patients at sidomulyo health center in pekanbaru city. Design This study used a cross-sectional design. sectional design. The analysis used was univariate and bivariate analysis using the chi square test. The sample in this study amounted to 136 people. The sampling technique used in this research is purposive sampling. The instruments in this study were the drug swallowing supervisor (PMO) questionnaire and the Morinsky Medication Adherence Scale (MMAS-8). (PMO) and Morinsky Medication Adherence Scale (MMAS-8) questionnaire. Results statistical test to determine the relationship between the practice of (PMO) with adherence to taking medication in tuberculosis patients obtained a p value of 0.391> 0.05 meaning that there is no relationship between the practice of supervision of swallowing (PMO) with adherence to taking medication in Tuberculosis patients at the sidomulyo health center in pekanbaru city. Suggestions on This study can play a role in the family for the prevention and treatment of tuberculosis.

Keywords : Medication Adherence, Medication Swallowing Supervisor (PMO) Tuberculosis

INTRODUCTION

Tuberculosis is a global problem, especially in developing countries such as Indonesia. Tuberculosis is an infectious disease that mainly attacks the lung parenchyma. This condition can also affect other parts of the body, such as the brain membrane, kidneys, bones, and lymph nodes. Tuberculosis is caused by Mycobacterium tuberculosis, which is an acid-resistant aerobic bacterium and is usually spread from one person to another through droplets when talking and coughing (Widani & Sianturi, 2020).

Tuberculosis is a deadly disease worldwide, both in Indonesia and internationally. Tuberculosis is one of the 10 leading causes of death worldwide. Based on the prevalence of tuberculosis, men are three times more likely to be infected with tuberculosis, because men are more likely to smoke than women (Fitriani & Septiani, 2022). According to WHO data, the prevalence of tuberculosis cases worldwide was 10 million people in 2020, increasing to 10.3 million people in 2021, and rising again to 10.6 million people in 2022. Prevalence data in Indonesia still places Indonesia second highest in terms of tuberculosis cases after India. Based on data from the Indonesian Ministry of Health, there were a total of 658,543 tuberculosis cases in 2023 (WHO, 2022).

The Indonesian Ministry of Health reported 31,899 cases of tuberculosis in Riau Province. This represents a 41% increase from the previous year's figure of 29.8%. However, this is still below the national target of 80%. The prevalence of tuberculosis patients in Riau in 2023 was 13,007 (Indonesian Ministry of Health, 2020).

The city of Pekanbaru still has the highest number of tuberculosis cases among 12 districts/cities. This is due to the fact that Pekanbaru has the largest population in Riau Province with services There are 21 community health centers and 31 private hospitals, but there are obstacles that have caused an increase in tuberculosis cases in the city of Pekanbaru because some people feel ashamed of their tuberculosis. Prevalence data in the city of Pekanbaru in 2022 shows that there were 2,870 registered and treated tuberculosis cases. According to data from the Pekanbaru Health Office, there are 21 community health centers in the city of Pekanbaru. Of these 21 community health centers, the highest number of tuberculosis cases was in the Sidomulyo Community Health Center working area, with 124 tuberculosis cases, including 75 men and 49 women (Dinkes, 2022).

Non-compliance with treatment will lead to treatment failure, resulting in resistance and continuous transmission of the disease. This can increase the risk of morbidity, mortality, and drug resistance in both patients and the wider community. The long-term consequences of non-compliance with treatment are deteriorating health and increased treatment costs. Non-compliance with treatment among pulmonary tuberculosis patients leads to low cure rates, high mortality rates, and increased recurrence. More critically, it results in bacterial resistance to several anti-tuberculosis drugs, making pulmonary tuberculosis extremely difficult to cure (Siagian & Rambe, 2021).

Failure to take medication can result from several factors, including unwillingness to report side effects from the medication taken and choosing to stop treatment due to a lack of improvement and an increase in complaints after taking the medication. Knowledge about tuberculosis affects patients' willingness to seek regular treatment and take their medication regularly, as well as a lack of motivation and support from family members and the absence of a medication supervisor (PMO) (Ritonga & Manurung, 2022).

Medication Adherence Supervisor (MAS) is an officer who ensures the regularity of treatment so that patients can recover and successfully undergo treatment. Therefore, the Ministry of Health recommends that the requirements to become a MAS are that they are known by patients and approved by both patients and health workers. Compliance is the extent to which patients carry out the treatment and behavior recommended by doctors. In undergoing long-term treatment, patient compliance is highly demanded to understand the patient's attitude and behavior towards the treatment program provided by health workers (Suryana & Nurhayati, 2021).

The results of interviews conducted on March 30, 2024, at the Sidomulyo Community Health Center indicate that medication supervision (PMO) is still actively carried out in the Sidomulyo Community Health Center working area. At the Sidomulyo Community Health Center, the family plays a role in PMO. During the interview with 10 respondents, it was stated that 70% of the 7 respondents played a role in PMO, while 30% of the 3 respondents did not play a role.

RESEARCH METHODS

This study is quantitative in nature, using a cross-sectional approach. The research design uses correlation to explain the relationship between variables. This study examines the relationship between the independent variable, namely medication supervision practices (MSP),

and the dependent variable, namely medication adherence among tuberculosis patients at the Sidomulyo Community Health Center in Pekanbaru City. This study was conducted in the working area of the Sidomulyo Community Health Center in Pekanbaru City.The population in this study consisted of 205 people taken from the Sidomulyo Community Health Center, from visits reported in 2023. The calculation of the large sample size was calculated using the Slovin formula, and it can be concluded that the sample size is 136 people. The sampling technique used in this study was purposive sampling with inclusion and exclusion criteria, and the Morinsky Medication Adherence Scale (MMAS) standardized questionnaire.

RESEARCH RESULTS

1. Analisa Univariat

1. Data Demografi

Tabel 1. Distribusi Berdasarkan Karakteristik Responden di Puskesmas Sidomulyo Kota Pekanbaru (n=136)

No	Karakteristik Responden	Frekuensi	Persentase %
1.	**Usia**		
	Remaja Akhir (17-25 Tahun)	9	6,6
	Dewasa Awal (26-35 Tahun)	23	16,9
	Dewasa Akhir (36-45 Tahun)	104	76,5
	Total	**136**	**100**
2.	**Jenis Kelamin**		
	Perempuan	56	41,2
	Laki-laki	80	58,8
	Total	**136**	**100**
3.	**Riwayat Pendidikan**		
	SD	5	3,7
	SMP	23	16,9
	SMA	103	75,7
	Sarjana	5	3,7
	Total	**136**	**100**
4.	**Pekerjaan**		
	Tidak Bekerja	10	7,4
	Wirausaha	11	8,1
	Wiraswasta	14	10,3
	Petani	18	13,2
	Buruh	42	30,9
	IRT	41	30,1
	Total	**136**	**100**
5.	**Lama Menderita TB**		

No	Karakteristik Responden	Frekuensi	Persentase %
	1 Tahun	67	49,3
	1,5 Tahun	32	23,5
	2 Tahun	17	12,5
	2,5 Tahun	12	8,8
	3 Tahun	8	5,9
	Total	**136**	**100**

(Source: Primary Data Analysis 2024)

Based on Table 1, it shows that of the 136 respondents in the study, more than half of the respondents were in the late adult age category (over 36 years old), totaling 104 people (76.5%). Based on gender, the majority were male, totaling 80 people (58.8%). Based on the respondents' highest level of education, the majority had a high school education, totaling 103 people (75.7%). Based on occupation, the majority of respondents worked as laborers, totaling 42 people (30.9%). The majority of respondents had suffered from pulmonary TB for 1 year, totaling 67 people (49.3%).

2. Distribusi Frekuensi

Tabel 2. Distribusi Frekuensi Pengawasan Menelan Obat (PMO) Penderita TB di Puskesmas Sidomulyo Kota Pekanbaru

Pengawasan Menelan Obat (PMO)	Frekuensi	Persentase%
PMO Berperan	58	42,6
PMO Tidak Berperan	78	57,4
Total	**136**	**100,0**

(Source: Primary Data Analysis 2024)

Based on Table 2, more than half of the respondents, namely 78 people (57.4%), stated that the PMO did not play a role, while 58 people (42.6%) stated that the PMO did play a role.

Table 3. Frequency Distribution of Medication Adherence Scores of TB Patients at the Sidomulyo Community Health Center in Pekanbaru City

Kepatuhan minum obat	Frekuensi	Persentase%
Kepatuhan sedang (6-7)	13	9,6
Kepatuhan rendah (0-5)	123	90,4
Total	**136**	**100,0**

(Source: Primary Data Analysis 2024)

Based on Table 3, more than half of the respondents, 123 people (90.4%), had a low level of medication adherence, while 13 people (9.6%) had a moderate level of adherence.

2. Analisa bivariate

Table 4. Distribution of Respondents Based on the Relationship between Medication Intake Supervision (MIS) Practices and Medication Adherence in Tuberculosis Patients at the Sidomulyo Community Health Center in Pekanbaru City

	Kepatuhan Minum Obat						
Pengawasan Menelan Obat (PMO)	**Sedang**	**%**	**Rendah**	**%**	**N**	**%**	***P value***
PMO Berperan	7	12,1%	51	87,9%	58	42,6%	*0,391*
PMO Tidak Berperan	6	7,7%	72	92,3%	78	57,4%	
Total	**13**	**9,6%**	**133**	**89,7%**	**136**	**100,0%**	

(Source: Primary Data Analysis 2024)

Table 4 shows that of the 136 respondents, 7 (12.1%) had moderate medication adherence with the help of medication supervision (MS), while 51 (87.9%) had low medication adherence with the help of MS. Meanwhile, PMO did not play a role in moderate medication adherence in 6 people (7.7%), PMO did not play a role in low adherence in 72 people (92.3%), and a p-value of 0.391 was obtained, which means > 0.05, so H0 is accepted, indicating that there is no relationship between the practice of medication supervision (PMO) and Medication Adherence Among Tuberculosis Patients at the Sidomulyo Community Health Center in Pekanbaru City.

DISCUSSION

Univariate Analysis

1. Data demografi

a. Age

Based on the results of the study, it shows that of the 136 respondents in the study according to age, more than half were over 36 years old (76.5%). Respondents aged 19-25 numbered 9 people with a percentage of (6.6%), while respondents aged 26-35 numbered 23 people with a percentage of (16.9%). This is in line with research conducted by Anggraeni (2023), which found that the majority of respondents were over 30 years old, namely 50 people (65.8%).

b. Gender

Based on the results of the study, the distribution of respondents was dominated by 80 male respondents (58.8%) and 56 female respondents (41.2%). This is in line with the study conducted by Aris (2021) which found that the characteristics of TB patients based on gender showed that most cases were suffered by males, with 21 cases (84%). This is supported by research conducted by Suryana (2022) which found that of the 30 respondents at the Setu II Community Health Center in Bekasi Regency, the majority were male, namely 16 (53.3%).

c.Educational Background

Based on the results of the study, it was found that the majority of respondents, 103 people (75.7%), had a high school education, 5 people (3.7%) had a bachelor's degree, 23 people (16.9%) had a junior high school education, and 5 people (3.7%) had an elementary school

education. This is in line with Rumaolat's (2020) study on the Relationship between the Level of Knowledge and Attitude of Medicine Intake Supervisors (PMO) and the Compliance of Pulmonary TB Patients, which shows that most respondents had a high school education, namely 15 people (50.0%). This is supported by research conducted by Anggraeni (2023) which found that based on education, most respondents had a high school education, namely 37 people (48.7%).

d. Occupation

Based on the results of the study, it was found that the majority of respondents, namely 42 people (30.9%), worked as laborers, 41 people (30.1%) worked as housewives, 18 people (13.2%) worked as farmers, 14 people (10.3%) worked as entrepreneurs, 11 people (8.1%) worked as business owners, and 10 people (7.4%) were unemployed. This study is not in line with the research conducted by Rumaolat (2020) on the Relationship between the Level of Knowledge and Attitude of Drug Intake Supervisors (PMO) and the Compliance of Pulmonary TB Patients, which found that the majority of TB patients worked as housewives, namely 11 people (36.7%).

e. Duration of Tuberculosis

Based on the results of the study, the majority of respondents, 67 people (49.3%), had suffered from TB for 1 year, 32 people (23.5%) had suffered from TB for 1.5 years, 17 people (12.5%) had suffered from TB for 2 years, 12 people (8.8%) had suffered from TB for 2.5 years, and 8 people (5.9%) had suffered from TB for 3 years.

2. Frequency Distribution of Medication Monitoring (PMO)

Based on the results of the study, it was found that the majority of respondents, 78 people (57.4%), did not play a role in PMO, while 58 people (42.6%) did play a role in PMO. In line with the research conducted by Suryana (2022), the results showed that out of 30 respondents, the role of PMO in monitoring medication intake in patients with inactive pulmonary tuberculosis was 18 people (60%) while active PMO was 12 people (40.0%).

3. Frequency Distribution of Medication Adherence Scores

Based on the results of the study, it was found that the majority of respondents, 123 people (90.4%), had a low level of medication adherence, while 13 people (9.6%) had a moderate level of adherence. These results are not in line with the study conducted by Hidayat (2021), which found that 68.5% of respondents had high adherence to OAT.

Bivariate Analysis

Based on the results of the study, it was found that of the 136 respondents, 7 people (12.1%) had moderate medication adherence with the help of medication supervision (MS), while 51 people (87.9%) had low medication adherence with the help of MS. Meanwhile, PMO did not play a role in moderate medication adherence in 6 people (7.7%), PMO did not play a role in low adherence in 72 people (92.3%), and a p-value of 0.391 was obtained, which means > 0.05, so H0 is accepted, indicating that there is no relationship between the practice of medication supervision (PMO) and Medication Adherence Among Tuberculosis Patients at the Sidomulyo Community Health Center in Pekanbaru City.

CONCLUSION

Based on the results of the study on "The Relationship between Medicine Intake Supervision (MIS) Practices and Medicine Adherence in Tuberculosis Patients at the Sidomulyo Community Health Center in Pekanbaru City," the researchers drew the following conclusions:

1. Based on the frequency distribution of Medication Intake Supervision (MIS), the majority of respondents, 78 people (57.4%), reported that MIS did not play a role, while 58 people (42.6%) reported that MIS did play a role.
2. Based on the frequency distribution of medication adherence, the majority of respondents, 122 people (89.7%), had low medication adherence, 13 people (9.6%) had moderate adherence, and 1 person (0.7%) had high adherence
3. Based on the distribution of the relationship between medication intake supervision (PMO) and medication adherence among tuberculosis patients at the Sidomulyo Community Health Center in Pekanbaru, it was found that out of 136 respondents, 1 person (1.7%) had medication intake supervision (PMO) that contributed to high medication adherence. PMO played a role with moderate medication adherence in 7 people (12.1%), and PMO played a role with low adherence in 50 people (86.2%). Meanwhile, there were no PMO that did not play a role in high compliance, PMO did not play a role in moderate medication adherence in 6 people (7.7%), PMO did not play a role in low compliance in 78 people (57.4%), and a p-value of 0.341 was obtained, which means > 0.05, so H0 is accepted, indicating that there is no relationship between the practice of medication supervision (PMO) and Medication Adherence Among Tuberculosis Patients at the Sidomulyo Community Health Center in Pekanbaru City.

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