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# Factors Affecting the Treatment of Pulmonary TB in the Working Area of the Dungaliyo Health Center, Dungaliyo District, Gorontalo Regency

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| Article Info | ABSTRACT |
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| | According to the WHO Global Tuberculosis Report for 2024, there will be around 10.8 million new TB cases worldwide in 2023, with an incidence of 134 cases per 100,000 population. Indonesia occupies the second position as the country with the most TB cases in the world. The purpose of this study is to find out the factors that affect the treatment of Pulmonary TB in the working area of the Dungaliyo Health Center in 2025. This study uses a quantitative method with a cross sectional study design, the sample in this study is Pulmonary TB patients who are treated at the Dungaliyo Health Center. Sampling was determined by a total sampling of 39 respondents. This research was conducted by interview method, the data collection tool is a questionnaire with a chi square test. From the results of this study, it can be concluded that 79.5% of respondents have lack of knowledge, 87.2% of respondents have strong motivation, 89.7% of respondents have an active PMO role. There was a relationship with knowledge (p = 0.037), there was a relationship with motivation (p = 0.038), there was a relationship with the role of PMO (p = 0.002), there was a relationship with income (p = 0.023) with the treatment of Pulmonary TB.Suggestion for the Dungaliyo Health Center is that PMO training should be held for family members who are PMO officers so that the treatment is complete. In addition, it also increases health promotion activities such as counseling, counseling, poster installation and distribution of leaflets about pulmonary TB disease. |

## INTRODUCTION

According to the WHO Global Tuberculosis Report for 2024, there will be around 10.8 million new TB cases worldwide in 2023, with an incidence of 134 cases per 100,000 population. Indonesia ranks second as the country with the most TB cases in the world, according to the report. Based on data from the 2023 Tuberculosis Information System (SITB), Indonesia recorded 821,200 reported cases of tuberculosis, with 86% of cases having been treated. Indonesia is ranked second in the list of countries with the most TB cases in the world based on the 2024 Global TB Report.

Nationally in Indonesia, Pulmonary Tuberculosis (TB) is an infectious disease caused by the bacterium Mycobacterium tuberculosis, mainly attacking the lungs, and spreading through the air from one person to another. Pulmonary TB can cause symptoms such as chronic cough, fever, night sweats, and weight loss, and become a serious health problem due to the high number of cases in Indonesia and the potential for fatal complications if left untreated

Tuberculosis (TB) is an infectious infectious disease caused by the bacterium mycobacterium tuberculosis that can attack various organs, especially the lungs. This disease must be handled properly because if left untreated or treatment is not completed, it can cause dangerous complications up to death. TB is thought to have existed in the world since 5000 years BC, but progress towards the discovery and control of TB has only occurred in the last 2 centuries. Tuberculosis transmission is very susceptible to occur in people infected

with HIV, children under the age of five who live at risk of being contaminated with M. tuberculosis bacteria, adults who have household contact with TB patients, and groups at risk of contracting Tuberculosis (Sriyanah, 2022).

Based on the provinces, the 2021 Indonesian Health Profile shows that Gorontalo province has the third highest CDR, with a figure of 71.3%. This figure has increased significantly when compared to the Gorontalo provincial CDR report the previous year. Another problem faced is drug resistance (RO), where in 2020, there were 34 cases of drug-resistant TB out of an estimated 126 cases (26.98%). In 2021, the number of detected cases increased to 58 cases from an estimated 126 cases (46.03%) (Gorontalo Provincial Health Office, 2021).

Based on data obtained from the Dungaliyo Health Center in the last 3 months, namely July, August and September, there were 44 pulmonary TB patients, 5 00 died. and from the results of interviews with nurses who hold the Pulmonary TB program, many pulmonary TB patients have stopped taking medication before the treatment period is over.

A high recovery rate will not be achieved if TB patients are irregular in consuming TB drugs so that there is a discontinuation of treatment or drop out. The main factors causing TB patient dropouts include the actions of humans themselves, ranging from patients, service providers, and health programs.1 Djojosoebroto R, in Himawan wrote that Drop out can be interpreted as TB patients who do not comply with treatment, for two consecutive months without taking and taking medication, and or patients who stop their own medication without a doctor's recommendation.

In the annual profile of the Health Office, the drop out figure is not shown in the annual report, but the data on the coverage of the drop out rate is obtained from recording and reporting using manual registers and electronic information systems in all health facilities. In providing data on health problems as a reference for primary data at the leading Ujung Tombak Health Center. One of them is in the Tuberculosis Disease Prevention Prevention Program (P2TB) where health center data goes directly to the Regency/City Health Office.

There are several factors that can affect the treatment of pulmonary tuberculosis including education, gender, treatment costs, distance from home, age, family motivation, patient motivation, drug side effects, patient's attitude and the encouragement of the supervisor to take medication. Treatment failure and lack of discipline for patients with pulmonary TB are greatly influenced by several factors, one of which is the role of the PMO (Medication Supervisor). The collaboration of health workers with families who are appointed to accompany patients when taking medication is also a factor that needs to be evaluated to determine the success rate (Purwanta:2020).

Based on the results of a study by Naili Fauziyah, about factors related to out-of-treatment in patients with pulmonary tuberculosis at the Lung Disease Treatment Center (BP4) Salatiga in 2010, factors related to pulmonary TB treatment are distance factors, family motivation, supervisors taking medication, and drug side effects.

Based on research by Lopulalan Octavianus in 2011 on the analysis of factors related to pulmonary TB at the UPTD Puskesmas in Sorong city, there is a relationship between knowledge, motivation, the role of PMO, and family support with the incidence of pulmonary TB Treatment Drop Out.

Based on research by Nurul Huda Prihatiningrum in 2014 on factors related to tuberculosis therapy at the UPTD Kamonji Health Center in Palu Central Sulawesi, the factors related to tuberculosis therapy are the level of education, family support, and support of health workers.

With the presentation of the data above, the problem of treating pulmonary tuberculosis, especially in Dungaliyo Regency, is a problem that must be solved because every year cases remain high. Therefore, the author is interested in conducting this study to find out what factors affect the treatment of TB patients at the Dungaliyo health center.

## RESEARCH METHODOLOGY

This study uses a quantitative method for the reason of quantitative research with a cross-sectional study design, where the measurement of variables can be carried out at the same time so that it is quite effective and efficient (Hidayat, 2008) with this method it is hoped that the factors that affect the treatment of pulmonary tuberculosis in the working area of the Dungaliyo Health Center can be known. This research was conducted in the working area of the Dungaliyo Health Center. This research was conducted from December 1 to December 15, 2025. This research began from the process of preparing a proposal by taking initial data at the research site.

### Data Analysis Techniques

### Univariate Analysis

The analysis was used to obtain an overview of the distribution of each variable about the characteristics of attitude, age, income, and knowledge presented in the form of a frequency distribution table to determine the variation in percentage proportion.

**Bivariate Analysis**

The analysis was used to see the factors that affect the independent variable (knowledge, motivation and role of the drug overseer) and the dependent variable (Pulmonary TB Treatment using a statistical test, namely chi-square with a significant level of 95%, $\alpha = 0.05$. So to see the relationship, it was obtained: If the p value < 0.05, it means that there is a relationship between knowledge, motivation and the role of the supervisor taking medication and the treatment of pulmonary TB. If the p value > 0.05, it means that there is no relationship between knowledge, motivation and the role of the supervisor of taking medication and the treatment of pulmonary TB.

**RESULTS**
**Distribution Characteristics of respondents**

**Table 1** Distribution of respondents based on characteristics of Age, Gender, Last Education, and occupation.

| N0 | AGE | FREQUENCY | INTRODUCE YOURSELF |
|---|---|---|---|
| 1 | 25-35 Years | 9 | 23,1 % |
| 2 | 36-45 Years | 15 | 38,5% |
| 3 | 46-60 Years | 15 | 38,5% |
|  | GENDER |  |  |
| 1 | Male | 15 | 38,5% |
| 2 | Women | 24 | 61,5% |
|  | FINAL EDUCATION |  |  |
| 1 | SD | 18 | 46,2% |
| 2 | Junior High School | 12 | 30,8% |
| 3 | High School | 9 | 23,1% |
|  | JOBS |  |  |
| 1 | PETANI | 14 | 35,9 |
| 2 | IRT | 12 | 30,8 |
| 3 | ARMY | 1 | 2,6 |
| 4 | DAY LABORERS | 12 | 30,8 |
|  | Total | 39 | 100% |

Source: Primary Data (2025)

Based on the results of the study on 39 respondents, the characteristics of respondents by age showed that the most respondents were in the age group of 36–45 years and 46–60 years, each as many as 15 people (38.5%). Meanwhile, respondents in the age group of 25-35 years amounted to 9 people (23.1%). This shows that most of the respondents are in the adult to advanced age group.

Based on gender, female respondents were the largest group, namely 24 people (61.5%), while male respondents amounted to 15 people (38.5%). Thus, the majority of respondents in this study were women.

Based on the last education, most of the respondents had 18 elementary school (SD) educations (46.2%), followed by respondents with junior high school (SMP) education as many as 12 people (30.8%), and respondents with high school (SMA) education as many as 9 people (23.1%). These results show that the education level of the respondents is mostly still at the basic education level.

Furthermore, based on occupation, most of the respondents worked as farmers as many as 14 respondents (35.9%), then some worked as IRTs and daily laborers as many as 12 respondents each (30.8%), and a small number worked as soldiers, namely as many as 1 respondent (2.6%). These results show that the majority of respondents are mostly farmers

**Univariate Analysis**

This analysis was carried out to obtain an overview of the frequency distribution of each variable studied, both dependent variables and independent variables. By looking at the frequency distribution, the description of each variable in the study can be known.

**Distribution of Pulmonary TB Treatment in Study Subjects**

**Table 2** Distribution of Pulmonary TB Treatment Frequency in Research Subjects at Dungaliyo Health Center in 2025

| Pulmonary TB Treatment | Frequency (F) | Percentage (%) |
|---|---|---|
| Complete Treatment | 36 | 92,3 |
| Stop Medication | 3 | 7,7 |

| Total | 39 | 100 |

Based on table 2 above, most of the respondents with a total of 36 respondents (92.3%) with complete treatment.

**Distribution of Knowledge in Research Subjects**

**Table 3.** Distribution of Knowledge Frequency in Research Subjects at the Dungaliyo Health Center in 2025

| PP   Knowledge | Frequency (F) | Percentage (%) |
|---|---|---|
| Less | 31 | 79,5 |
| Enough | 6 | 15,4 |
| Good | 2 | 5,1 |
| Total | 39 | 100 |

Based on table 3 above, most of the respondents with a total of 31 respondents (79.5%) have limited knowledge, 6 respondents (15.4%) have sufficient knowledge, and a small number of respondents, namely 2 respondents (5.1%) have good knowledge.

**Distribution of Motivation in Research Subjects**

**Table 4.** Distribution of Motivation Frequency in Research Subjects at Dungaliyo Health Center in 2025

| Motivation | Frequency (F) | Percentage (%) |
|---|---|---|
| Weak | 5 | 12,8 |
| Strong | 34 | 87,2 |
| Total | 39 | 100 |

Based on table 4 above, it was found that most of the respondents with a total of 34 respondents (87.2%) had strong motivation, and a small number of respondents with a total of 5 respondents (12.8%) had weak motivation.

**Distribution of PMO Roles**

**Table 5** Frequency Distribution of the Role of PMO in Research Subjects at the Dungalito Health Center in 2025

| The role of the PMO | Frequency (F) | Percentage (%) |
|---|---|---|
| Less Active | 4 | 10,3 |
| Active | 35 | 89,7 |
| Total | 39 | 100 |

Based on table 5 above, it was found that most of the respondents with a total of 35 respondents (10.3%) had the role of Active PMO and a small percentage of 4 respondents (10.3%) had the role of PMO Less active.

**Bivariate Analysis**
**The Relationship of Knowledge with Pulmonary TB Treatment**

**Table 6** The Relationship of Knowledge with Pulmonary TB Treatment in Research Subjects at the Dungaliyo Health Center in 2025

| Knowledge | Pulmonary TB Treatment | | | | | | Pvalue |
|---|---|---|---|---|---|---|---|
| | Discontinuation | | Treatment Complete | | Total | | |
| | F | % | F | % | F | % | |
| Less | 1 | 3,2 | 30 | 96,8 | 31 | 100 | |
| Enough | 1 | 16,7 | 5 | 83,3 | 6 | 100 | 0,037 |
| Good | 1 | 50 | 1 | 50 | 2 | 100 | |
| Total | 3 | 7,7 | 36 | 92,3 | 39 | 100 | |

Based on Table 6, it shows that of the 31 respondents with a lack of knowledge, as many as 30 people (96.8%) underwent complete pulmonary TB treatment and 1 person (3.2%) had stopped taking medication. In respondents with sufficient knowledge as many as 6 people, there were 5 people (83.3%) who underwent

complete treatment and 1 person (16.7%) who stopped taking medication. Meanwhile, in respondents with good knowledge totaling 2 people, each 1 person (50%) underwent complete treatment and 1 person (50%) had a withdrawal of medication.

Overall, of the 39 respondents, 36 people (92.3%) underwent complete pulmonary TB treatment and 3 people (7.7%) had discontinuation of medication. The results of the statistical test showed a p-value = 0.037 (p < 0.05), which means that there is a significant relationship between the level of knowledge and the treatment of pulmonary TB at the Dungaliyo Health Center in 2025.

**The Relationship between Motivation and Pulmonary TB Treatment**

**Table 7** Relationship between Motivation and Pulmonary TB Treatment in Research Subjects at Dungaliyo Health Center in 2025

| Motivation | Pulmonary TB Treatment | | | | | | Pvalue |
| | Discontinuation | | Treatment Complete | | Total | | |
| | F | % | F | % | F | % | |
| Weak | 2 | 40 | 3 | 60 | 5 | 100 | 0,038 |
| Strong | 1 | 2,9 | 33 | 97,1 | 34 | 100 | |
| Total | 3 | 7,7 | 36 | 92,3 | 39 | 100 | |

Based on Table 7, of the 5 respondents who had weak motivation, as many as 2 people (40%) had stopped taking medication and 3 people (60%) underwent complete pulmonary TB treatment. Meanwhile, of the 34 respondents with strong motivation, there was 1 person (2.9%) who had stopped taking medication and 33 people (97.1%) undergoing complete treatment.

Overall, of the 39 respondents, 36 people (92.3%) underwent complete pulmonary TB treatment and 3 people (7.7%) had discontinuation of medication. The results of the statistical test showed a p-value = 0.038 (p < 0.05), which means that there is a significant relationship between motivation and compliance with pulmonary TB treatment at the Dungaliyo Health Center in 2025.

**The Relationship of PMO's Role with Pulmonary TB Treatment**

**Table 8** The Relationship of the Role of PMO with the Treatment of Pulmonary TB in Research Subjects at the Dungaliyo Health Center in 2025

| The role of the PMO | Pulmonary TB Treatment | | | | | | Pvalue |
| | Discontinuation | | Treatment Complete | | Total | | |
| | F | % | F | % | F | % | |
| Less active | 2 | 50 | 2 | 50 | 4 | 100 | |
| Active | 1 | 2,9 | 34 | 97,1 | 35 | 100 | 0,023 |
| Total | 3 | 7,7 | 36 | 92,3 | 39 | 100 | |

Based on Table 8, it is known that of the respondents with a less active PMO role, there are 2 people (50%) who have stopped taking medication and 2 people (50%) who are undergoing complete pulmonary TB treatment. Meanwhile, in respondents with an active PMO role, most of them underwent complete pulmonary TB treatment, namely 34 people (97.1%), and only 1 person (2.9%) had stopped taking medication. Overall, of the 39 respondents, there were 4 people (10.3%) who had stopped taking medication and 35 people (89.7%) who had completed treatment for pulmonary TB. The results of the statistical test showed a value of p = 0.023 (p < 0.05), which means that there is a significant relationship between the role of PMO and the success of pulmonary TB treatment. Thus, it can be concluded that the active role of PMO is related to increasing compliance and completeness of pulmonary TB treatment.

## DISCUSSION

### Univariate Analysis

### Distribution of Respondents' Knowledge with Pulmonary TB Treatment in the Working Area of the Dungaliyo Health Center

The results of this study show that, out of 39 respondents, there are 31 respondents who have less knowledge. Based on the researcher's observations, respondents' knowledge about pulmonary TB treatment is at the stage of knowing and understanding. However, it has not yet entered the stage of application, analysis, synthesis and evaluation. Most of the respondents only know about the meaning of Pulmonary TB and its causes, but the respondents do not know about the way of transmission, prevention, control and treatment of Pulmonary TB itself. This is in accordance with the statement of Notoatmodjo (2020), the cognitive domain consists of six levels, namely *know*, *comprehension,* application, analysis, synthesis, and *evaluation*.

According to Notoatmodjo (2007), the tofu stage is the most basic level of knowledge. At this stage, respondents gain new knowledge and remember material that has been obtained before (*recall*). Most of the respondents only know the meaning of Pulmonary TB and what causes it.

This low level of knowledge can be overcome by providing accurate information about tuberculosis, this is so that pulmonary TB patients who do not know about *drop out* can know about it and prevent this case from occurring. The provision of this information can be done through posters, *leaflets* and *flipcharts.* So it is hoped that low-knowledge TB patients will not become a source of transmission.

### Distribution of Motivation of Respondents with Pulmonary TB Treatment in the Working Area of the Dungaliyo Health Center

The results of this study show that, out of 39 respondents, there are 34 respondents who have strong motivation. Based on the researcher's observations, the strong motivation of the respondents was due to the intention of the respondents to recover and complete treatment regularly and completely. In addition, respondents are confident that pulmonary TB disease can be cured. The active role of PMO is also an important factor in supporting the treatment process of Pulmonary TB.

The strong motivation of pulmonary TB patients will have an impact on increasing their chances of recovery. With high motivation, it will affect medication adherence in patients with Pulmonary TB.

This is strengthened by Naizi Fauziyah's research on factors related to treatment *drop-outs* in patients with Pulmonary TB at the Lung Disease Treatment Center (BP4) Salatiga, Patient obedience in carrying out treatment is one of the determining factors in the success of treatment. Although on the one hand the accuracy of examination and diagnosis is becoming more modern, on the other hand the adherence to treatment from the patient is often low. Seeing that there is still a lack of motivation of the sufferers themselves, it is necessary to make efforts to increase motivation, namely by regular home visits by officers, at least 1-2 times during the treatment period.

### Distribution of the Role of PMO Respondents with Pulmonary TB Treatment in the Work Area of the Dungaliyo Health Center

The results of this study show that, out of 39 respondents, there are 35 respondents who have an active PMO role. According to the researchers' observations, respondents who have an active role are expected to have a strong desire and motivation from respondents to recover. In addition, the role of the PMO in providing information about Pulmonary TB disease and providing motivation to patients is a supporting factor in the treatment process of Pulmonary TB patients.

PMOs that play an active role are very important in supporting compliance in the treatment of Pulmonary TB. According to the Ministry of Health's R&D, the existence of a Drug Swallowing Supervisor is one of the determinants that can supervise patients taking all their medicines. The existence of this PMO also ensures that the patient takes the medicine correctly and can be expected to recover at the end of his treatment. (R&D of the Ministry of Health of the Republic of Indonesia, 2021)

This research is supported by the research of K. Mukhsin et al (2006) in Jambi City. The results of statistical tests showed that there was a significant difference between the regularity of taking medication in patients with Pulmonary TB who had PMO compared to those without PMO. The regularity of taking medication in patients with pulmonary tuberculosis with the presence of PMO can be said to be like a student with a teacher. The group of people with pulmonary TB who had PMO was more likely to be regular on OAT than the group with people who did not have PMO

### Bivariate Analysis

### The Relationship of Knowledge with Pulmonary TB Treatment at the Dungaliyo Health Center in 2025

The results of the study show that, of the 31 respondents who have less knowledge, and 6 people who have enough knowledge,. And 2 people who have good knowledge. From the results of the chi-square analysis, a Pvalue value = 0.037 (P<0.05) was obtained, this shows that knowledge has a meaningful relationship with

the incidence of pulmonary TB treatment drop-out at the UPTD Puskesmas Dungaliyo in 2025.

From the results of interviews from respondents who were knowledgeable but still stopped taking medication, as many as 1 respondent was because although the respondents had a good level of knowledge about pulmonary TB and its treatment, knowledge alone does not always guarantee compliance in undergoing treatment. Discontinuation of medication in well-informed respondents can be affected due to the side effects of TB drugs, Anti-tuberculosis drugs often cause side effects such as nausea, vomiting, dizziness, or weakness, so that patients feel uncomfortable and choose to stop treatment despite having understood the importance of therapy.

As According to Notoatmodjo (2020), knowledge is one of the predisposing factors that affect the formation of a person's health behavior. However, knowledge is not the only determinant of behavior, because health behavior is also influenced by other factors such as attitudes, beliefs, motivation, and supporting and driving factors.

In the context of this study, although there are respondents with good knowledge who have stopped taking medication, this is in line with Notoatmodjo's theory which states that good knowledge is not necessarily realized in real actions if it is not supported by other factors. Knowledge is only in the cognitive realm, while medication adherence behavior is a psychomotor realm that requires positive attitude support, strong motivation, and a supportive environment.

In addition, Notoatmodjo also explained that health behavior is influenced by reinforcing factors such as family support, the role of health workers, and medication supervision (PMO). If the boosting factor is not optimal, then even if the patient has good knowledge, there is still the potential to experience drug withdrawal.

The results of this study also show that the number of respondents with good knowledge is relatively small, so the variation in individual behavior greatly affects the results. This reinforces Notoatmodjo's opinion that health behavior change requires a comprehensive approach, focusing not only on improving knowledge, but also on the formation of attitudes and the provision of adequate environmental support.

Based on the results of the research conducted, most of the respondents have a low level of knowledge, because only a small number can answer the questions correctly. Respondents do not know about the causes, symptoms, transmission and prevention and treatment of pulmonary TB. Knowledge about TB disease is an important part of health promotion to achieve a society or individuals who behave healthily by maintaining, protecting, and improving their health so as to avoid TB disease. Low respondent knowledge can be a trigger for Drop Out in Pulmonary TB patients because respondents do not know how to transmit, prevent and treat Pulmonary TB itself. Likewise, a good and thorough knowledge of TB disease and its treatment is related to the actions that a person will take in carrying out treatment actions so that it can increase the patient's awareness to complete his treatment. In addition to being related to actions, the knowledge possessed by people with Pulmonary TB is also related to the perception that Pulmonary TB is a dangerous and contagious disease. Assuming, the better the level of knowledge related to pulmonary TB disease and its treatment, the more the patient will be aware to undergo a regular treatment program. (Anton, 2008; Mitnick, 2008). For this reason, it is necessary to have health promotion and in-depth socialization about Pulmonary TB both to patients and their families, so that it can increase the knowledge of pulmonary TB patients, so that patients with Pulmonary TB are motivated to obey treatment so that Drop Out does not occur.

This is in accordance with the theory put forward by the Ministry of Health of the Republic of Indonesia (2008), in the TB control program, direct individual counseling is very important to determine the success of treatment. So that pulmonary TB counseling needs to be carried out because TB problems are often related to people's knowledge and behavior problems.

This research is supported by the results of Made Suadnyani's (2013) research on the relationship between perception and knowledge level of TB patients with treatment compliance in Buleleng District. The results showed that there was a significant relationship between knowledge and medication adherence, where patients with low knowledge did not experience dropouts more often. This can be influenced by the motivation given by health workers, family and self-motivation.

**The Relationship of Motivation with Pulmonary TB Treatment at Dungaliyo Health Center in 2025**

The results of the study show that, of the 5 respondents who have weak motivation,. and 34 respondents who had strong motivation, From the results of the chi-square analysis, a Pvalue value = 0.038 (P<0.05) was obtained, this shows that motivation has a meaningful relationship with the incidence of drop-out treatment of Pulmonary TB at the UPTD Puskesmas Dungaliyo in 2025. OR value = 22 (1.51 - 319.47). This puts the risk of 1.5 times more in patients with pulmonary TB with weak motivation.

From the results of interviews from respondents who had strong motivation but still stopped taking medication, as many as 1 respondent, namely due to external barriers (enabling factors), namely access to health services, availability of medicines, distance to health facilities, and work conditions. This barrier can cause the patient to discontinue treatment despite having a strong motivation.

According to Notoatmodjo (2020), motivation is an internal factor that plays a very important role in shaping a person's health behavior. Motivation serves as the main driver that drives individuals to act,

including in undergoing treatment regularly and continuously.

The results of this study are in line with Notoatmodjo's theory, where respondents with strong motivation mostly show high adherence to pulmonary TB treatment. Strong motivation encourages patients to continue to undergo treatment despite facing various obstacles, such as the length of treatment time and medication side effects.

On the other hand, in respondents with weak motivation, there were still incidents of drug withdrawal. This suggests that low motivation can cause patients to have less motivation to maintain healthy behaviors, even though they have received adequate information and health services. Notoatmodjo emphasized that without strong motivation, health behaviors are difficult to maintain in the long term.

Thus, the results of this study support Notoatmodjo's theory that motivation is an important factor in medication adherence, so efforts to improve the success of pulmonary TB treatment not only focus on knowledge, but also on strengthening patient motivation through family support, the role of health workers, and supervision of medication use.

From the results of this study, it can be seen that respondents who have strong motivation, even though the treatment of Pulmonary TB is boring and takes a long time, but they are still confident and obedient to carry out Pulmonary TB treatment until the completion of treatment. Meanwhile, respondents who have weak motivation prefer to stop continuing treatment because respondents feel bored with long and unhealthy pulmonary TB treatment.

The research was supported by research conducted by Naili Fauziyah (2010), with the results of the study there was a relationship between motivation and drop out of pulmonary TB treatment at the Salatiga Lung Disease Treatment Center. The results of the study found that 14 (46.7%) respondents had low motivation to treat pulmonary TB. Weak motivation can be caused by the respondent's lack of desire and confidence to recover from the Pulmonary TB disease, the respondents feel bored with a long period of treatment and have to take medication regularly, the respondents also feel that it is useless because according to the respondents Pulmonary TB disease cannot be cured.

This research is also strengthened by the green theory (1980) in Jaka (2009), in his research it is stated that non-compliance with medication in patients with pulmonary tuberculosis can be prevented by paying attention to family, community, and environmental factors as well as health facilities, the availability of sufficient drugs and the dedication of health workers. Further strengthened by the theory of Robbins (2007) in his research it is stated that the main key in motivation is the effort and goal to be achieved, namely the willingness to strive or strive to a higher level towards the goal achieved by obtaining satisfaction in meeting needs.

**The Relationship of PMO's Role with Pulmonary TB Treatment at Dungaliyo Health Center in 2025**

The results showed that, of the 4 respondents who had the role of PMO, they were less active. And 35 respondents who had an active PMO role, From the results of the chi-square analysis, a Pvalue value = 0.023 (P<0.05) was obtained, this shows that the role of PMO has a meaningful relationship with the Incidence of Pulmonary TB Treatment Drop Out at the Dungaliyo Health Center in 2025. OR score = 34 (2.08 – 554.72). This leads to a 2-fold greater risk in patients with pulmonary TB with a less active role PMO. Based on the results of research, PMOs that play an active role can have an impact on increasing the motivation of patients to complete Pulmonary TB treatment so that it can reduce the incidence of drug withdrawal The role of PMO is to take drugs to health care facilities, remind them to re-check sputum at a predetermined time, and provide information about how to transmit, symptoms, treatment methods and side effects of pulmonary TB drugs is very important to support the process treatment of pulmonary TB for patients.

From the results of interviews from respondents who have an active PMO role but still have stopped taking medication, as many as 1 respondent is due to negative perception of disease or treatment, and fatigue undergoing long-term treatment. Although the PMO actively reminds and accompanies, the final decision to take the medication remains with the patient.

These results are in line with Notoatmodjo's theory, which states that social support and the role of health companions are reinforcing factors that greatly influence changes in health behavior, including patient compliance in undergoing long-term treatment such as pulmonary TB. From

According to the Ministry of Health's R&D in the treatment of pulmonary TB at the Health Center, one of the determinants is whether or not there is a Drug Swallowing Supervision (PMO) that can supervise patients taking all their medicines. The existence of this PMO also ensures that the patient is taking the medicine correctly and can be expected to recover at the end of his treatment. The PMO must be a person who is known and trusted by the patient and by health workers. They can be health workers themselves, families, community leaders, and religious leaders (R&D of the Ministry of Health of the Republic of Indonesia, 2020).

This research is supported by research by K. Mukhsin et al (2020) in Jambi City. The results of statistical tests showed that there was a significant difference between the regularity of taking medication in patients with Pulmonary TB who had PMO compared to those without PMO. The regularity of taking

medication in patients with pulmonary tuberculosis with the presence of PMO can be said to be like a student with a teacher. The group of people with pulmonary TB who had PMO was more likely to be regular in OAT than the people who did not have PMO.

This research is supported by the theory put forward by the Ministry of Health of the Republic of Indonesia (2018), one of the components of DOTS is OAT treatment with direct supervision. To ensure the regularity of treatment, a PMO is needed who is in charge of supervising TB patients to swallow medication regularly until it is finished, encouraging patients to receive regular treatment, reminding patients to re-examine phlegm, and providing family counseling about TB disease. To guarantee treatment, a PMO is needed because TB drugs must be taken for 6 months without breaking. If the patient stops in the middle of treatment, it must be repeated from the beginning. For this reason, a PMO, namely another person who is well known by the sufferer, is needed so that compliance with treatment is appropriate.

**CONCLUSION**

Most of the respondents have less knowledge, Most have strong motivation, Most have an Active PMO role. There is a meaningful relationship between knowledge and treatment of Pulmonary TB in the working area of the Dungaliyo Health Center in 2025 (P = 0.037). There was a meaningful relationship between motivation and pulmonary TB treatment in the work area of the Dungaliyo Health Center in 2025 (P = 0.038). There is a meaningful relationship between the role of PMO and the treatment of pulmonary tuberculosis in the working area of the Dungaliyo Health Center in 2025 (P = 0.023).

**ADVICE**

It is hoped that the Dungaliyo Health Center will increase Health Promotion activities regarding Pulmonary TB. PMO training activities should be held for family members who are PMO officers so that there is no drug discontinuation in the treatment of Pulmonary TB. In addition, health workers can conduct counseling, counseling, poster installation and distribution of leaflets about the dangers of Pulmonary TB disease and the appropriate treatment of Pulmonary TB in order to increase public knowledge about Pulmonary TB disease and can motivate the community, especially Pulmonary TB sufferers, to seek intensive treatment in health services.

It is expected that the academic community, in this case, the Nursing study program of the University of Muhammadiyah Gorontalo will participate in efforts to increase public knowledge about pulmonary TB disease and motivate the community through Field Learning Practice (PBL) activities and community service activities. In addition, it can be used as input to educational institutions, especially for public health students, about the factors that affect the incidence of pulmonary TB treatment drop-outs, so that this information can be used to develop strategic steps in improving public health which can later contribute to developing lecture materials.

It is expected that other researchers will conduct further research on the factors that affect the incidence of pulmonary TB treatment drop-out by adding new variables, larger sample numbers and qualitative types to add better results so as to strengthen the decisions taken. In addition, the research questionnaire should be prepared using better language so that it is easier for respondents to understand and validity and reliability tests are carried out before being distributed to respondents in order to reduce bias.

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