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**eai.11-10-2021.2319617.pdf**

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WORD COUNT

**2277 Words**

CHARACTER COUNT

**12444 Characters**

PAGE COUNT

**5 Pages**

FILE SIZE

**164.3KB**

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**Aug 29, 2022 7:41 PM GMT+7**

REPORT DATE

**Aug 29, 2022 7:42 PM GMT+7**

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# Supports and Obstacles in Managing Pulmonary Tuberculosis in Utara Aceh District

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**Abstract.** Tuberculosis (TB) is still a significant health problem in North Aceh District. Various factors contribute to the success of TB control in an area. This study aims to analyze the potential support and barriers to TB control in North Aceh District. This study is qualitative research involving participants from health workers and patients with pulmonary tuberculosis. Data were collected through in-depth interviews, and data were analyzed using Atlas.ti 8 software. The study results identified support for TB control in the form of support for health workers, family support, social support, and support for health services. Meanwhile, the obstacles are insufficient knowledge of TB sufferers, long distances from residence, and patients with malnutrition, drug-taking supervisors, comorbid diseases, and bad behavior.

**Keywords:** Support; Obstacles; Management; Pulmonary Tuberculosis

## 1 Introduction

Tuberculosis is a lung infection caused by the bacteria *Mycobacterium tuberculosis*. This disease is still a significant health problem in Indonesia and Aceh in particular. The number of pulmonary TB cases in Aceh in 2018 was 8471 cases. North Aceh Regency contributed 1247 cases with a Case Detection Rate (CDR) of 48 percent (Aceh Provincial Health Office, 2019). Aceh Utara has a TB incidence rate of 451 cases per 100,000 people, with those receiving treatment in health institutions accounting for just 27 percent of the overall incidence. The low number of patients who want to undergo treatment makes it difficult to control tuberculosis in North Aceh Regency. Therefore, it is necessary to identify the supports and obstacles in overcoming tuberculosis in this area.

## 2 Method

This research is qualitative research. Participants involved in this study consisted of 3 health workers and 30 people with pulmonary TB in North Aceh District. Data were collected through unstructured in-depth interviews using interview guidelines and the acquired data were then analyzed using the qualitative data analysis program atlas.ti 8.

### 3 Result and Discussion

Based on the interviews, several supports were obtained in the treatment of TB patients, including support from health workers, family support, social support, and health care support. Health workers responsible for the TB program have shown their support by delivering drugs to TB sufferers' homes if they do not come to pick up their drugs at the time of the drug collection schedule.

This is as expressed by the following participant:

*"...During my time on duty in this TB department, I always checked anyone who had not taken medicine. If it was time to take medicine, but it did not come, we sent the medicine to their house (PK3)."*

*"...Yes....at least if someone does not take medicine, even though it is already scheduled to take medicine, we call to remind them to come to get medicine. If someone comes on the phone, someone does not come (PK2)."*

The attitude of supporting health workers affects patient compliance where patients receive motivational support from health workers to always take medicines to the health center on time and always pay attention to the patient's health development so that patients feel cared for by officers and accept all recommendations officers during treatment. Sugiono's research (2017); Herawati, Abdurakhman, and Rundamintasih (2020) showed a substantial link between health worker assistance and medication adherence in TB patients. The function of health professionals is critical in enhancing the quality of optimum health services provided to the community, so it is very helpful in improving the healing process in patients with pulmonary TB, especially adherence to taking pulmonary TB drugs.

Families are people who are always close to people with TB. So family support can be an essential element in supporting the successful treatment of TB patients. The following participants expressed the following forms of family support:

*"...Yes, boo, very supportive. When I get treatment, I always take my child with me. My wife also always reminds me to eat healthy food (PS6)."*

According to Melizza (2018), family support is divided into 4, namely instrumental, informational, emotional, and reward support. Family support supports the success of pulmonary TB treatment. Family support is needed to encourage pulmonary TB patients by showing concern and sympathy.

Social support is obtained from community leaders in the form of involvement of TB sufferers in the village apparatus structure so that TB sufferers have a monthly income from their duties as village officials. They bought motorbikes belonging to the village to be used when going for control or re-treatment at the Health Medical Centre (Puskesmas). This is as expressed by the following participant:

*"...If it is like Mr. Marsuddin, I have been helping all this time, he is a poor person, there is no job, so I chose him to be the village secretary, so there is a village honda with him, maybe it can be used if it is necessary to go to the health center for treatment (KD6)."*

Support for TB treatment is also obtained from health services. All TB sufferers involved as participants in this study are BPJS users, so they get services, and the participants also stated that the health services they had received at the health medical centre (puskesmas) were good.

Some of the obstacles found in TB treatment include common patient knowledge, a long distance from the place of residence, patients experiencing malnutrition, barriers in terms of PMO, comorbid disease, and bad behavior of TB patients.

*“...education...we give books, sometimes after we tell them they forgot again, there are lots of TB patients who do not go to school, or there are schools but only finished elementary school, most of them are old (PK2)”*

Ignorance of the lengthy treatment process and taking medication that must be routine resulted in the patient discontinuing the drug after two months of treatment. This happens because the patient feels he has recovered. Barriers to TB treatment also occur due to the distance where TB sufferers live far from health services. Most TB sufferers are people with low socioeconomic status. Most of them do not have a private vehicle for re-control or take medicine to the Puskesmas when the drug supplies run out. This is as expressed by the following participant:

*“...I do not have my vehicle. Sometimes we borrow money from neighbors or ride with the villagers if they happen to want to go to lhoksukon (PS 7).”*

Health services and patient confidence in undergoing treatment are essential things that can support patients in completing their treatment. Research by Yuli Setyaningrum, Hidayah, and Yuliarti (2019) stated that distance perception is a risk factor for non-adherence in pulmonary TB patients. The distance where TB sufferers live far from the health care center has a risk of non-compliance 7.1 times greater than the perception of close distance. Salam and Wahyono's research (2020) also found that the distance from the patient's house to health care facilities (RS) affected the occurrence of default in pulmonary TB patients at the Goeteng Taroenadibrata Hospital, Purbalingga. Pulmonary TB patients who live far from the hospital have a 3.26 times risk of default than pulmonary TB patients who live close to their homes. Geographic access may be evaluated by the mode of transportation, distance traveled, journey duration, and other physical barriers that may hinder a person from getting health care.

TB patients with malnutrition are also very dominant in pulmonary TB patients in North Aceh Regency. This is also an obstacle that needs attention to find a solution. The patient feels that his body is getting thinner during the illness, and every time he weighs, his weight decreases compared to before the illness. This is as expressed by the following participant:

*“...I used to have a robust and thick body, but now I am skinny. I used to weigh up to 75, I weighed 65 (PS 25).”*

According to Feleke, Feleke, and Baglione (2019), the prevalence of underweight in TB patients was 57.17 percent in a research of 5,045 individuals (1681 TB patients and 3,364 TB-free inhabitants) in Ethiopia. Malnutrition affects a sizable number of tuberculosis patients. Malnutrition or malnutrition in TB patients can be the cause or the effect of TB infection. Malnutrition is a major concern for TB patients, according to Gupta, Gupta, Atreja, Verma, and Vishwakarma (2009). This occurs because tuberculosis infection boosts anabolic processes and requires more energy. Furthermore, TB infection causes a reduction in appetite, reduced food absorption, or malabsorption, increasing the risk of becoming underweight.

Another obstacle found in TB patients is the drug-taking supervisor (PMO). This is as expressed by the following participant:

*“...Yes, sir, my husband reminds me to take medicine sometimes, but I often remember it myself. Man, how can I remember this time and again? Yesterday, a puskesmas person said someone had to supervise taking medicine (PS3).”*

Lack of understanding of PMO in TB treatment is the main obstacle that is often encountered. The research of S. Paongan, Nursalam, and Robaya (2019) stated that PMOs who play an active role in TB treatment have a positive relationship with pulmonary tuberculosis treatment adherence. According to Rohmah, Rahayu, and Indrawati (2019), PMOs from family members who carry out direct supervision when patients take medication have a 20,250 times greater tendency to affect adherence to treatment for TB sufferers.

Comorbid disease experienced by TB patients is also an obstacle in TB treatment found in this study. The most common comorbid disease is diabetes mellitus. This is as expressed by the following participant:

“... I have diabetes too, bro. My father has had sugar for a long time. My father keeps getting thinner either because of diabetes or tuberculosis (PS9).”

According to Tetrapod, Nugroho, and Fretes (2020), the treatment will take longer if it is accompanied by comorbidities such as diabetes mellitus. Pulmonary TB in DM patients has different characteristics, so it is often not diagnosed, and treatment is complex considering the interaction of TB drugs and oral antidiabetic drugs. According to Rohman (2018), reasonable blood sugar control can improve tuberculosis treatment. According to Nirahua, Pandapotan, and Layanto (2021), treatment for TB-DM can cause treatment failure. Therefore, it is necessary to monitor treatment to achieve therapeutic targets.

The bad behavior of TB patients found is that there are still TB patients who smoke and use drugs. This is as stated by the following participant:

“... Smoking is still not smoking once in a while (said the patient with a smile2). I have not been able to stop yet (PS2).”

“... That is what I have not been able to throw away yet. If I am driving, I am sleepy, I smoke to get rid of sleepiness (PS19).”

According to Mapparenta, Syria, and Ibnu (2013), patients with pulmonary TB who are still smoking since being diagnosed with pulmonary TB will have a 1,204 times greater risk of developing resistant pulmonary TB. Pulmonary TB can pose a risk of acute infection because Smoking can worsen lung function and expand the spread of tuberculosis bacteria, thereby slowing the healing of pulmonary TB disease.

## 4 Conclusion

Support in TB control in North Aceh District is support for health workers, family support, social support, and support health services. Meanwhile, the obstacles found were common knowledge of TB patients, a long distance from the place of residence, patients with poor nutrition, drug-taking supervisors, comorbid diseases, and bad behavior of TB patients.

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