



Tuberculosis Control Program Management in the Donggala Community Health Center Work Area

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ABSTRACT

Low public awareness in TB treatment, at least 6 months and many cases of drug discontinuation which causes resistance to anti-tuberculosis drugs also affect transmission, do not understand how to treat. The purpose of this study was to determine the analysis of tuberculosis patient management in the Donggala District Health Center area. This research method uses a qualitative method to explain and describe (in words) the implementation of TB case finding at the Donggala Health Center so that the research results can be conveyed in depth, with 7 informants. Based on the research results, the community in the Donggala Health Center area has a diverse understanding, some people are aware of the dangers of TB and the importance of regular treatment. Health workers have an important role in finding new cases of TB. They carry out active screening by going directly to the community, conducting close contact investigations, and working with health cadres and the village government. The conclusion is that health services in the Donggala Health Center area are quite available, with the presence of laboratories and medical personnel who can carry out TB examinations and diagnoses quickly. Research suggestions can expand the reach of education to the community about the importance of TB prevention, compliance with taking medication, and the risk of spreading the disease..

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INTRODUCTION

Burden of Tuberculosis, according to a report by the World health organization (WHO), Indonesia is in the list of 30 countries with the highest burden of Tuberculosis in the world and ranks third highest in the world in terms of the incidence of Tuberculosis. In 2019, the incidence of Tuberculosis in Indonesia was 316 per 100,000 population or an estimated 845,000 people suffering from Tuberculosis. The WHO report also estimates that the Tuberculosis death rate in Indonesia is around 35 per 100,000 population or around 93,000 people died from Tuberculosis in 2019 (WHO, 2019).

Indonesia has committed to reducing the incidence of Tuberculosis cases to 65 per 100,000 population by 2030. Efforts to combat Tuberculosis in Indonesia in 2020-2024 are directed to accelerate Indonesia's efforts to achieve Tuberculosis elimination by 2030, as well as end the Tuberculosis epidemic by 2050.

The discovery of pulmonary TB patients according to the Minister of Health Regulation No. 67 of 2014 is carried out in a passive and active way. Passive discovery is carried out with the involvement of government and private health service facilities, by increasing the service network and laboratory examinations for officers who come to the health center (Ministry of Health, 2016).

The strategy in the discovery of Tuberculosis cases is to involve the community with the aim of increasing community participation in the discovery of Tuberculosis suspects and helping to overcome the Tuberculosis problem in their area. Because this community involvement can be defined as regular and continuous observation of Tuberculosis with the community as the perpetrator in the discovery of

Tuberculosis suspects. The opportunity to play a role in the fight against Tuberculosis makes resources in the community need to be used to improve health and change people's behavior.

The indicator of the tuberculosis control program is the discovery of Tuberculosis cases or commonly called Case Detection Rate (CDR). CDR is the percentage of the number of new positive BTA patients found and treated compared to the number of new positive BTA patients estimated in a region. Patient discovery aims to obtain Tuberculosis patients through a series of activities ranging from screening suspected Tuberculosis patients, physical examinations and necessary supporting examinations, determining diagnosis, determining disease classification and types of Tuberculosis patients.

Donggala Regency is one of the districts in Central Sulawesi Province with a notification rate of TB cases above the notification rate of TB cases in Central Sulawesi. Donggala Regency, the problem of TB is a serious problem because it is included in the number one killer group among infectious diseases, therefore this is one of the concentrations of the health center program, namely TB prevention and control.

The number of cases of Tuberculosis Case Detection Rate (CDR) in Central Sulawesi Province has not reached the set target of 80% CDR coverage, case data at the Donggala Health Center in 3 years of CDR coverage is 51%, in 2021 it is 37.7%, in 2022 it is 43.7% and in 2023 it is 41%. Efforts to actively screen and discover cases in the community can involve Tuberculosis activists or cadres (referred to as Cough Monitors). The involvement of cadres has proven to be effective in significantly reducing the number of Tuberculosis cases (Apriani, 2019).

Coverage of the Discovery of TB SO Cases in the Donggala Regency area in 2023 The number of suspected TB cases examined was 4641 cases and 462 cases were found with positive Mycobacterium Tuberculosis (MTB) Examination or as much as 41% of the estimated target in 18 Puskesmas, and 2 Hospitals. At the Donggala Health Center, the discovery of the highest TB cases with a total of 53 cases, was found and treated at the Donggala Health Center, plus 90 cases were found at Kabelota Hospital and treated at the Donggala Health Center.

Donggala Regency itself has been mapped and has been divided into 3 reference centers for the Molecular Rapid Test (TCM) examination, namely Pendau Tambu Hospital, Kabelota Hospital and Donggala Health Center. The distribution of TCM referrals at Tambu Hospital covers the working areas of the Ogoamas Health Center, Balukang Health Center, Tonggolobibi Health Center, Sabang Health Center, Tambu Health Center, Tompe Health Center and Kayuwou Health Center. Kabelota Hospital covers the working area of the Batusuya Health Center, Toaya Health Center and Labuan Health Center, and Donggala Health Center includes the working area of the Wani Health Center, Pinembani Health Center, Delatope Health Center, Lembasada Health Center, Lalundu Health Center, Lalundu Despot Health Center and Donggala Health Center itself.

According to TB Program Holders at the Donggala Health Center and Program Holders at the Donggala Regency Health Office, obstacles or obstacles that are often found at the Donggala Health Center, namely the lack of family support and psychological response cause obstacles to the implementation of tuberculosis therapy, the low level of public awareness in TB treatment, which is at least 6 months and the many incidents of drug discontinuation that cause resistance to anti-tuberculosis drugs also affect TB transmission, do not understand the method and duration of treatment, the level of knowledge, the psychology of the sufferer and there is a social stigma.

METHODS

This research is a type of research used in this study using a qualitative research design with a case study research type (Scott, 2020) This study uses a descriptive approach to explain and describe (in the form of words) the Management Analysis of Tuberculosis Patients in the Donggala Health Center Area so that the results of the research can be conveyed in depth.

Data collection was carried out in three ways, namely interviews, Focus Group Discussions (FGD), and Observation. In-depth interview method in collecting data or information directly on informants. Focus Group Discussion (FGD) is a qualitative data collection technique designed to obtain information on the desires, needs of viewpoints, beliefs and experiences of informants on a topic. Observation is directly observing the activities carried out by the research informant, the observation method used in this study is unstructured observation.

Data validity tests in qualitative research include credibility tests, transferability tests, dependability tests and confirmability tests. In this study, a credibility test was used to test the validity of the data conducted by triangulation. Data triangulation is defined as checking data from various sources in various ways and at various times.

In this study, triangulation is used is source triangulation. Source triangulation is to test the credibility of the data which is carried out by checking the data that has been obtained through several sources, source triangulation will be carried out on the key informant of a person who has the main informant in this study, namely the holder of the TB program at the health center and the main informant, namely village midwives aged 15-59 years, and the supporting informant, namely the family.

RESULTS

Univariate Analysis

Table 1. Characteristics of Informants

	Initials Informants	Age	Occupation/ Departments	Date Research
1	US	40 Years	TB Program Holder at the Donggla Regency Health Office	24-10-2024
2	AH	57 Years	Head of UPT Donggala Health Center	7-11-2024
3	THE DAY	51 Years	B program holders at UPT Puskesmas	7-11-2024
4	TI	50 Years	TB patients who have recovered	13-11-2024
5	AM	45 Years	TB patients who have recovered	13-11-2024
6	LS	28 Years	Midwife of Gunung Bale Village	3-12-2024
7	TO	30 Years	idwives of Kabonga Besar Village	3-12-2024

Primary data source, 2024

Interview of TB Program Holders at the Donggala Regency Health Office (AS, 24-10-2024)

The results of interviews with TB program holders at the Donggala Regency Health Office by discussing What are the main strategies applied in the management of TB cases at the Donggala Regency level?

"Actually, nationally we use a national strategy, so in this national strategy, we can see in this book that the 2020-2024 period is the latest book, so in the national strategy that we are doing in Donggala Regency, there are 6 strategies that we carry out in the discovery and management of TB cases in Donggala, the first is a strategy with strengthening commitment, and the leadership of the City Regency government to support the acceleration of elimination in 2030, while in Donggala Regency there is something we want to carry out, namely the first is the formation of a TB control team in Donggala Regency so this is our main strategy, where we want to be involved in tackling TB is not only a responsibility in the health sector but what is desired nationally is desired that we can overcome or eradicate diseases TB, where this team will be made a Decree (SK) by the Regent, the second of this formation will prepare a regional action plan for TB treatment itself, increasing access to services that are in favor of patients, in this strategy is optimizing efforts to actively treat TB massively by providing quality services, so we facilitate that our health facilities have the main examination services, namely the examination for TB uses TCM examination, so until now in Donggala Regency it has provided 5 TCM referral laboratories in Donggala Regency, and if for health center services in all services it has been involved in the discovery and treatment of TB cases, the 3rd strategy is intensification in TB control services, here this is also the main activity that we do, namely the discovery of TB cases, by carrying out nationally with contact investigations where this is the output of this activity, namely finding suspected cases of TB so in this activity, especially health workers at the health center in charge of the TB program at the health center, making home visits to patients who have tested positive for the laboratory and are declared sick with TB, then a contact examination is carried out at their household, or the people closest to the patient.

TB screening is carried out and if anyone is symptomatic, it will be followed by taking phlegm and examining phlegm, in this activity also officers also carry out examinations using the tuberculin test, to household contacts, so this tuberculin examination is to determine the person in the house who has been infected with TB bacteria, if he is asymptomatic then it is declared as a person with latent TB, or have been infected but not sick, and if a case like this is found, tuberculosis prevention therapy will be given which we call TPT for those with latent TB, but if there are symptoms, then it will be treated and if it is not negative for tuberculosis and declared healthy, then there is no need to do any therapy.

The 4th strategy is the use of research results and screening results in management, this is the development of the TCM program. In Donggala district, diagnostic tools using TCM, through the TB program activities are determined nationally, and for the time being in Donggala district have not been innovative themselves, the 5th strategy is the strategy to increase stakeholders and the stability of TB services, starting from funding, planning, as well as monitoring and evaluation in order to increase resources, so far the training we have conducted on the TB program is, what we did yesterday for health facilities, TB

control training for health facility level officers, there are also doctors and nurses, then TB cadre training, we carried out new cadre training in 2018 but it is not comprehensive so only a few villages carry out cadres who are trained as TB cadres, for the future in 2025 to 2030 Donggala district is trying to be able to train TB cadres. The 6th strategy is about strengthening the management of the TB control program, where this strengthening includes the availability of logistics, supervision and monitoring, to measure the level of development of the achievement of the program itself, the logistics assistance received by Donggala Regency is still facilitated from the center. As for OAT and non-OAT drugs, all are still facilitated by the province, except for catridge, this TCM catridge has a budget for the physical DAK, the logistics is assistance from the center, and as a strengthening as a program holder, we strive to provide rewards to the health center with the best performance in TB control. We only use it, so we insert activity money in the form of cendramata in the form of glasses, even if the funding is not there, we only insert it from activity money and ATK money."

Based on the results of the interview above, the TB control strategy in Donggala Regency is carried out comprehensively with reference to the 2020-2024 national strategy. The measures implemented include strengthening government commitments, increasing access to services, intensifying case discovery, utilizing technology, increasing resources, and strengthening program management. Although still dependent on central and provincial support, various efforts such as contact investigation, use of TCM, training of health workers, and providing incentives for outstanding health centers continue to be carried out to accelerate TB elimination by 2030.

How does the Health Office measure the activities of the program that are already running?

"Nationally, also in the TB program, we have a target that measures the success of the program, we have 10 indicators, so we assess this from the success target."

Nationally, TB programs have 10 key indicators that are used to measure its success. The evaluation was carried out based on the achievement of the targets of each of these indicators, which reflected the effectiveness of TB control strategies in detecting, treating, and preventing the spread of the disease.

What are the main challenges faced in TB control, both in terms of funding, strategy and community empowerment?

"The most challenge is with the patient himself, after being examined and found positive, and the patient does not want to be treated, which is to break the main chain of transmission by looking for TB patients to be treated until cured, and this is the toughest challenge in the health center, namely patients who refuse to be treated."

"The biggest challenge in TB control is patients who refuse treatment after testing positive. This hinders efforts to break the chain of transmission, because the success of the program depends on the patient's compliance in undergoing treatment until they recover. This condition is the main obstacle in the health center in efforts to eliminate TB."

To what extent does the Health Office involve the community in TB treatment efforts?

"Yes, so far we ourselves have been a big homework for us, to involve the community in TB control, because as said earlier, the program that we want to form, namely TB cadres, community involvement in TB control in Donggala Regency is still a big challenge. Efforts to form TB cadres are expected to help monitor the community, but budget limitations hinder maximum cadre training. As a result, the level of community involvement in TB programs is still very low."

Are there any steps taken to overcome the problem of drug resistance in TB patients that have been found?

"Yes, so far to facilitate, it's just encouraging the patients themselves to be able to treat resistant TB themselves and thank God in 2024 we have already reached 80% of those who have done the treatment, even though it is not yet 100% and there are still those who refuse."

TB drug resistance in the program has already shown positive results with 80% of patients undergoing treatment, which directly helps to suppress the spread of resistant TB. This success was achieved through its own program approach as well as support from the Global Fund, which facilitates treatment and improves patient adherence to taking medications.

However, challenges remain, especially with 20% of patients refusing treatment, which is at risk of becoming a source of community-resistant TB transmission. To achieve more optimal reduction, a more intensive approach is needed, such as community-based education, compliance incentives, and the use of digital technology to support patients during therapy. If compliance rates can be increased to close to 100%, then the spread of resistant TB strains can be further suppressed, supporting future TB elimination efforts.

How does the Health Office support, monitor and manage TB patients in their respective regions?

"Actually, in the program itself we have this reporting application that manages this, so we from the district can monitor the countermeasures from the results of this online reporting, for example, if there are still a lack of findings, it can be monitored once a year, and it can be seen from previous reports, reports are also taken from the data of the movement from TB control."

The online reporting applications used in the program have helped monitor and intervene in the control of resistant TB more effectively, with faster detection and data-driven monitoring. Annual monitoring and feedback reports from the district allow for ongoing evaluation to ensure treatment is up to standard. However, budget constraints are still a major challenge in involving other sectors that can strengthen the detection and treatment of resistant TB. To increase the effectiveness of resistance reduction, additional support is needed so that the countermeasures strategy can be expanded and more optimal.

Are there any efforts from program managers at the Health Office to improve medication adherence in TB patients?

"So far we don't have any, what we are doing is only education, about TB treatment itself."

Although there is no specific program yet, education on TB treatment still contributes to reducing TB drug resistance by increasing patient awareness, preventing improper drug use, and reducing transmission of resistant TB. However, without additional compliance monitoring or support, the effectiveness of the reduction is still limited. For more optimal outcomes, additional interventions such as patient monitoring systems, compliance incentives, or community involvement in ensuring treatment goes well.

Is there a new policy from the Health Office, especially for program managers in improving TB organizer programs in the future?

"Yes, we have expansion activities that we want to carry out in the future, preparing regional action plans for TB control itself, especially Donggala Regency."

The preparation of a Regional Action Plan for TB control in Donggala Regency has the potential to provide more effective resistance reduction through strengthening monitoring, education, compliance incentives, and cross-sector collaboration. With this approach, improved detection, treatment adherence, and prevention of the spread of resistant TB can be more structured and sustainable.

Is there cooperation with the private sector such as NGOs?

"Yes, we also collaborate with NGOs such as NGOs from the city of Palu such as "Penabuw" to work together by motivating TB patients, as well as providing education about taking medicine (i.e. taking medicine completely) and also helping patients to seek treatment."

Based on the explanation above in this activity, the NGO Penabuw also plays a role in providing motivation to TB patients so that they remain enthusiastic about undergoing treatment. In addition, they also provide education about the importance of compliance in taking medicine, namely taking medicine regularly and completely according to the recommendations of health workers. Not only that, Penabuw NGO is also active in helping patients in the treatment process, for example by facilitating patients' access to health services, accompanying them during the treatment period, and helping to overcome social or economic barriers that can interfere with the continuity of TB therapy.

Head of the Donggala Health Center (AH, 7-11-2024).

How is the TB control program planning process carried out at the Donggala Health Center?

"In accordance with the General Health Plan (RUK), the reduction of TB drug resistance can be achieved through early detection, increased treatment adherence, public education, and cross-sector collaboration. To ensure its effectiveness, support is needed in the form of strong policies, adequate funding, and ongoing surveillance of resistant TB patients."

What is the budget allocation for TB control programs at the Donggala Health Center?

"Yes, allocate it according to the existing guidelines, existing financial conditions, what is it to fund the BOK fund, the JKN fund can be but it is larger, so we put it in the BOK fund, if the amount will be later the treasurer, how many times will it decrease, because of monitoring, in accordance with the planned program."

Reducing TB drug resistance through the allocation of BOK and JKN funds can be done by strengthening patient monitoring, providing effective drugs, public education, and operational support for resistant TB patients. With the proper use of funds in accordance with Juknis, the risk of resistance can be reduced and TB treatment programs become more effective and sustainable.

Are there any specific guidelines or policies used in the preparation of TB control planning?

"Because this is in accordance with their RUK, it is clear that this is in accordance with the guidelines in this TB, what is requested from the TB program, for example, there must be tracking, then a budget is made for tracking, for case discovery, and TB deprogramming also gets a program budget directly from the Ministry or Province, namely from GF."

Budgeting of funds for tracking programs, case discovery, and patient monitoring. Provide treatment services for resistant TB with the support of existing funds. Provide resources for education and socialization about resistant TB. Ensure patients receive therapy with a drug regimen that meets WHO standards.

How is the involvement of health workers in the TB control program planning process?

"If Donggala Regency is in TB control, we involve various parties such as doctors, laboratories, nurses, and health promotion teams. If there is a problem, all relevant parties are involved to find a joint solution."

Are vaccination activities to prevent TB at the Donggala health center going well?

"Yes, according to the achievements, in Donggala district, immunization coverage is still low, including TB immunization. One of the main obstacles is the digital reporting system that relies on the internet. If the data is not entered in the application or is not recorded in the health card, then the achievement is not counted in the report. Areas with limited internet access face difficulties in reporting, even though services have been provided."

What is the explanation of the implementation of the TB control program at the Health Center?

"The Activity Proposal Plan (RUK) is prepared in accordance with the guidelines of the TB program. If the program requires case tracking, then a budget is prepared for it. Likewise with case discovery, where the budget is allocated according to needs. In addition, there is direct budgeting from the program to support the implementation of TB activities."

As for the organizing system with a list of interviews, namely:

What is the organizational structure of the Donggala Health Center in handling TB control programs?

"In TB control, all parties are involved according to their roles. The health promotion team plays a role in education, doctors and nurses handle patients, and laboratories directly conduct examinations according to the needs of the case. At the health center, TB treatment is included in the category of infectious diseases and is in Cluster 4 in the Primary Service Integration System (ILP). With this system, the flow of services changes, where patients with infectious diseases are directly treated by TB program holders, without going through other polyclinics. The doctor or nurse visits the patient at a special location for examination. This ILP approach is also applied uniformly in pustu and posyandu in the case discovery process, replacing the conventional poly system."

"How do we act quickly, the quick response is that there are other programs that come to the house, so if we get a case that leads to TB, so immediately report, and their team goes down, or directly directs the patient directly to a laboratory examination, so as soon as they hear the complaint, they are immediately directed to the health center, if it is found outside, but if it is in the cluster, an examination is immediately carried out with a quick response, if there are other programs that find cases that lead to TB, they report them immediately. The team immediately dismounts or directs the patient to a laboratory examination. If a case is found outside the facility, the patient is directed to the health center, while if it is in a cluster, the examination is carried out directly on site."

What is the coordination between the Health Center and the health office related to TB control?

"So far, the coordination has been very good, and it has gone smoothly, once it was found in Donggala Regency that the highest TB cases were found, then the provincial Health Office built a special TB Building at the Donggala Health Center, this shows that the data is a response and shows good cooperation."

TB Program Holder at the Donggala Health Center (AY, 07-11-2024).

What is the role of TB program holders at the Donggala Health Center to conduct initial screening to find TB patients in the community?

"If we do an initial screening, all TB holders will go down to the community. TB screening is carried out comprehensively, both in the field by the TB team and in health facilities by doctors and laboratories. If symptoms such as coughing are found for two weeks, the patient will undergo a re-screening to confirm the diagnosis."

How quickly can TB diagnosis results be obtained after the patient undergoes examination at the Donggala Health Center?

"Maximum 2-3 hours to complete"

"The TB screening process is carried out quickly and efficiently, where results can be obtained within a maximum of 2-3 hours, so that patients immediately get the necessary follow-up."

How do program holders at the Donggala Health Center increase public awareness about the importance of early detection of TB?

"Through education, to the person concerned, education is carried out directly to the individual concerned to ensure understanding and increase compliance with the health program."

How is the contact tracing procedure carried out by the Donggala Health Center TB program holder after the discovery of TB cases, and How effective is contact tracing in finding new TB cases in the community?

"The first thing when we found it, we asked who was a family member who lived in the same house, how often the person was in contact with them."

"Every TB case found is immediately followed up with the identification of family members and close contacts. This approach has proven to be quite effective in detecting and preventing further spread."

Are there any challenges faced in conducting contact tracing, and how do Program Holders overcome them?

"Sometimes they do not want to do examinations, even though there are some patients who refuse to be examined, efforts are still made to overcome it because TB transmission can occur through the air. Most of these cases can still be handled with the right approach."

How does the Puskesmas collaborate with community leaders or health cadres to find TB patients?

"Judging from the cooperation of cadres, if we track cases, we make contact with patients who are already positive, an approach is made through cadres, namely reported to the head of the hamlet, then education is given, so that this patient does not transmit it to others."

TB case tracking is carried out by involving cadres and hamlet heads. Educational efforts are provided to prevent the spread of the disease and ensure that patients and the public understand the prevention measures.

TB Informant (TB Patients who have been declared cured)

How do you feel after being declared cured of TB?

Patients Cured of TB 1 (TI, 13-11-2024).

"It's good because the breathing is good, the cough has healed, the food is good, the point is that everything is good."

Patients recovered from TB 2 (AM, 13-11-2024).

"My condition improved, breathing was relieved, my cough decreased, my appetite increased, and I felt more comfortable and happy."

Do you experience any disturbing symptoms or complaints after completing treatment?

Patients cured of TB 1 (TI, 13-11-2024).

"In the past, my scale when I was sick was only 40 kg, now it has recovered to 61 kg, then I take dry throat medicine."

Patient recovered from TB 2 (AM, 13-11-2024).

"I used to work in chocolate, 65, when I was sick I was in my 50s, now it has risen to 58. "

The patient's weight dropped when he was sick, but after recovery there was a significant increase. Some patients experience side effects such as a dry throat while taking the medication.

What do you feel while undergoing TB treatment?

Patients cured of TB 1 (TI, 13-11-2024).

"There are no complaints, if it is true at first like to vomit, but after it is carried out continuously, it is normal, and so on it is good."

Midwife Informant of Gunung Bale Village (LS, 03-12-2024).

How do patients who come for treatment, are TB symptoms identified, how to detect in Gunung Village?

"As long as I opened it, no one came for treatment with a cough, only if we went for screening at the health center, we asked \there was a 6-month medical history if there was, for example, if there was one, we immediately screened, we directed it inside, the doctor examined, and then forwarded it to the lab or program holder."

What are the common symptoms that midwives know or that are often found in Gunung Bale Village?

"He lost weight, continued to cough a little, if you say that people are like that, they often cough with phlegm like that."

How many midwives have found cases in this village in this month or last year?

"There is, pregnant women, her cough is not contagious, her weight is getting worse every day, starting from the beginning of pregnancy she already has a history of TB."

What are the steps if TB is detected?

"Take it to the health center, recommend it for sputum examination, if it is positive, we recommend it with the family, one house, for example with small children, it is forbidden to have direct contact first, so we educate with the cutlery, so as not to get infected, if you have taken medicine for 6 months, insha Allah you will be cured, it's just that you have to be patient."

Is there a counseling or education program about TB from the health center?

"If it is from the Puskesmas, there is Mr. Yudin, a visit to his house (TB patient), there is counseling, if he is not busy, because he is the only manager at the Puskesmas."

How is the coordination from the Puskesmas, there are special challenges in handling TB in the Village such as accessing medicines?

From the village midwife, what are the steps so that the patient is not lazy to take medicine?

"Iyo, if usually pregnant women, we bring them, because there is really no vehicle, she does not stop taking medicine, when she is pregnant, how many months of pregnancy has finished the medicine, her mother has died, due to bleeding."

If in the community in the village, if the response is about the TB detection program, do you accept it?

"Well, it depends, some accept, some don't, because there are patients who don't accept it, so we are also rich too, in this village in RT 5, and there are TB patients who have not completely taken medicine."

Are there efforts to prevent the spread of TB in the Village?

"Meanwhile, at the posyandu cman only mothers come, if anyone is detected, we recommend coming for an examination at the health center, they don't want to, maybe embarrassed, there are also patients whose children have been detected with TB because they have a history of TB, we provide education about the

transmission, the mother often refuses because the mother said there was no direct contact, and the grandfather has died, I will tell you again, But we are the same house, after that I don't know anymore, whether my children are receiving treatment or not."

In RT 5, for example, there was a TB patient who did not complete his treatment. This risks making the disease worse and increasing the possibility of transmission to others. Efforts have been made to approach and educate, but the openness of patients and their families in receiving treatment is still an obstacle. This condition reflects the importance of more intensive socialization and support from various parties to ensure the sustainability of treatment for TB patients in the community.

Informant Midwife of Kabonga Besar Village (AL, 03-12-2024).

How does the Donggala Health Center service conduct initial screening to find TB patients in Kabonga Besar Village?

If the initial screening, usually it's just a cough, I give amroxol medicine first, I tell the patient, if for example 3 days the cough doesn't finish, I ask you to come back, with the reason that I want to give you a good medicine again, if there is a patient, I usually bring it or I ask the family to come back.

How quickly are the results of TB diagnosis obtained from the Health Center?

"Usually a day, the important thing is that there are not many patients, quickly, usually Mr. Udin also takes a long time to go home because he brings a lot of check-ups, usually I am also anxious, so I call later Mr. Yudin's safety is already there, usually I ask Mr. Yudin, usually he is busy"

According to the village midwives / pustu, how are the program holders at the Donggala Health Center about public awareness about the importance of early detection of TB?

"I think Mr. Yudin is good because the program is already in place, he is also close to the community, who doesn't know him, only if you know him in the field, we are here the majority of people here, so the approach with patients is good, then the achievements are also good."

What is the procedure for tracing the contact tracing of program holders assisted by the Village Midwife, is it effective?

"If we are here, thank God, if the medicine that is treated for 6 months is usually completely done, because we have a family who takes the medicine here, or Mr. Yudin Pigi who delivers the medicine, or usually those who live in this environment, usually so until all the medicines."

Are there any challenges faced in conducting contact tracing, and how do TB program holders assisted by pustu midwives overcome them?

"So far because there is none, because patients usually if their cough does not heal, at most patients cough for 1 month and do not recover and buy medicine at the pharmacy, if they do not recover anymore they still come to me to ask for medicine again, with complaints I still cough with cold sweat, so I immediately directed them to the health center to do an examination, And they just go along because they're also afraid."

How does the Puskesmas collaborate with community leaders, or health cadres to find TB patients?

"So far it's the same cadres, usually they ask after all, there are midwives here who cough, but they're embarrassed to check, just bring them here, how long does the cough, if it's been a long time we recommend a mucus check, there are also active cadres, there are also cadres who are less active, yes, that's it."

TB control in Kabonga Besar Village faces various challenges, especially in terms of community stigma, medication compliance, and limited extension workers. Screening and detection are carried out through the Health Center, but the sustainability of treatment is still an obstacle. Education and support for patients are needed to ensure compliance and prevention of TB transmission more effectively.

DISCUSSION

Knowledge of attitudes, perceptions and beliefs of the community about Tuberculosis in the Donggala Health Center Area, Donggala Regency

The results of interviews with TB Program Holders at the Donggala Regency Health Office, namely the people in the Donggala Health Center Area have a diverse understanding of Tuberculosis (TB). Some communities have become aware of the dangers of TB and the importance of regular treatment. However, there is still stigma and fear associated with this disease, which causes some patients to be reluctant to be examined or undergo treatment. Education carried out through counseling and the involvement of health cadres has helped increase public awareness and acceptance of TB control programs.

The results of the interview with the Head of UPT. Donggala Health Center The knowledge of the community in the Donggala Health Center's work area regarding tuberculosis (TB) is quite varied. Some people already understand that TB is an infectious disease caused by the bacterium *Mycobacterium tuberculosis* and can be spread through sputum splashes from people who cough or sneeze. However, there are still some people who have an incorrect understanding, such as considering TB as a disease caused by hereditary factors or mystical conditions.

The results of the midwife informant of Kabonga Kecil Village based on the results of interviews found that public acceptance of the TB detection and treatment program in Gunung Bale Village varies.

There are residents who accept it well and follow the recommended procedures, but there are also those who refuse. This rejection is a challenge for health workers, because they have to face skepticism and stigma that are still inherent in society. The findings in RT 5, for example, were that there was a TB patient who did not complete his treatment.

Meanwhile, the results of the interview of the Informant of the Gunung Bale Village midwife TB control at the Donggala Health Center, especially in Gunung Bale Village, faced various challenges, especially in terms of community stigma, adherence to taking medication, and limited extension workers. Screening and detection are carried out through the Health Center, but the sustainability of treatment is still an obstacle. Education and support for patients are needed to ensure compliance and prevention of TB transmission more effectively. However, there is still stigma and fear that cause some people to be reluctant to get tested or undergo TB treatment. The stigma against TB can stem from the assumption that the disease only affects certain groups, such as people with low social status or those with unhealthy lifestyle habits. In addition, fear of drug side effects and long duration of treatment are also major obstacles in patient adherence to therapy.

Factors Affecting Public Understanding Some of the factors that affect public understanding of TB include: Education and Access to Information: Low levels of education are often associated with a lack of understanding of the disease and how it is transmitted. Local Culture and Beliefs: Some societies still associate TB with unfounded myths or beliefs, such as being associated with witchcraft or curses. Personal and Social Experience: People who have family members who have had TB are more likely to understand the importance of treatment and prevention. The Role of Health Workers and Cadres: Health cadres and medical personnel who actively provide education have been proven to be able to increase public understanding and awareness of TB.

Public understanding of TB in the Donggala Health Center area is still diverse, influenced by various factors such as education, culture, personal experience, and the role of health workers. Stigma and fear of TB are still obstacles in efforts to overcome this disease. Therefore, a comprehensive educational approach that involves various elements of society is indispensable to raise awareness, lower stigma, and encourage adherence to TB treatment.

A study conducted by Aisyah et al. (2022) found that intensive counseling in TB-endemic areas increased public awareness by up to 75% compared to areas that did not receive education. According to Notoatmodjo (2019), attitude is a reaction or response that is still closed from a person to a stimulus or object. Allport in Notoatmodjo (2019) explained that attitudes consist of a cognitive component (ideas learned), a behavioral component (affecting appropriate or inappropriate responses) and an emotional component (causing consistent responses) the tendency to act (tend to behave). These three components together form a whole attitude (Total attitude) (Gerung, 2020).

The Role of Officers in Efforts to Detect Tuberculosis Cases in the Donggala Health Center Area, Donggala Regency

Health workers have an important role in finding new cases of TB. Based on the results of interviews with TB Program Holders at the Donggala Regency Health Office with the Head of the Donggala Regency Health Center using a national strategy, in the national strategy for the 2020-2024 period in the national strategy carried out in Donggala Regency, namely 6 strategies carried out in the discovery and management of TB cases, the first is a strategy with strengthening commitment, and the leadership of the City Regency government to support the acceleration of elimination In 2030, as for Donggala Regency, there is something we want to carry out, namely the first is the formation of a TB control team in Donggala Regency so this is the main strategy, where involved in TB control is not only a responsibility in the health sector but what is desired nationally can overcome or eradicate TB disease, where the team will be made a Decree (SK) by the Regent, The second of this formation will be to prepare a regional action plan for TB treatment itself, increasing access to services that are on the side of patients, in this strategy is optimizing efforts to actively treat tuberculosis massively by providing quality services, facilitating that our health facilities have the main examination services, namely examinations for TB using TCM examinations, until now in Donggala Regency have provided 5 referral laboratories TCM in Donggala Regency, puskesmas services in all services have been involved in the discovery and treatment of TB cases.

The 3rd strategy is intensification in TB control services, here the main activity we carry out, namely the discovery of TB cases, by carrying out nationally with contact investigations where this is the output of this activity, namely finding suspected cases of TB so in this activity, especially health workers at the health center in charge of the TB program at the health center, make home visits to patients who have tested positive for the laboratory and are declared sick with TB, then a contact check is carried out, or the patient's closest people, to be screened for TB and if there are symptoms, it will be continued by taking phlegm and conducting a sputum examination, in this activity also the officer also carries out an examination using the tuberculin test, to household contacts.

So this tuberculin test is to determine the person in the house who has been infected with TB bacteria, if he is asymptomatic then he is declared to be a person with latent TB, or already infected but not sick, and if a case like this is found then tuberculosis prevention therapy will be given which we call TPT for those with latent TB, but if there are symptoms, Then it will be treated and if the tuberculin is negative and declared healthy, then there is no need to do any therapy.

The 4th strategy is the use of research results and screening results in management, this is the development of the TCM program. In Donggala Regency, diagnostic tools using TCM, through the TB program, activities are determined nationally, and for the time being Donggala Regency has not been innovative on its own.

The 5th strategy is a strategy to increase stakeholders and stability of TB services, starting from funding, planning, as well as monitoring and evaluation in order to increase resources, so far the training we have carried out on the TB program, namely, what we did yesterday for health facilities, TB control training for health facility level officers, there are also doctors and nurses, then TB cadre training, We carried out the training of new cadres in 2018 but it was not comprehensive, so only a few villages carried out cadres who were trained as TB cadres, for the future in 2025 to 2030 Donggala district is trying to be able to train TB cadres.

The 6th strategy is about strengthening the management of the TB control program, where this strengthening includes the availability of logistics, supervision and monitoring, to measure the level of development of the achievement of the program itself, the logistics assistance received by Donggala Regency is still facilitated from the center. As for OAT and non-OAT drugs, all are still facilitated by the province, except for catridge, this TCM catridge has a budget for the physical DAK, the logistics is assistance from the center, and as a strengthening as a program holder, we strive to provide rewards to the health center with the best performance in TB control.

Interview results with midwives in Kabonga Village and Gunung Bale Village They conducted active screening by going directly to the community, conducting close contact investigations, and cooperating with health cadres and the village government. In addition, a digital reporting system is used to monitor patient compliance in treatment, so that interventions can be carried out faster if non-compliant patients are found. Officers also educate patients and their families about the importance of ongoing treatment to prevent drug resistance.

Health workers actively conduct screening and investigations to find TB cases early. This strategy is based on the epidemiological theory of active surveillance, where case discovery does not only rely on patients coming to health facilities (passive case finding), but also through a direct approach to the community (active case finding). Some of the methods applied include: Active Screening: Officers go directly to the community to look for individuals with TB symptoms, especially in high-risk areas such as densely populated settlements or neighborhoods with high levels of poverty. Close Contact Investigation: In accordance with WHO guidelines, officers trace close contacts of active TB patients to detect potential infections early. Collaboration with Health Cadres and Village Government: A community-based approach involving health cadres and village officials increases the reach of screening and effectiveness in the discovery of new cases.

The availability and accessibility of health service facilities in an effort to support efforts to discover new cases of Tuberculosis in the Donggala Health Center Area, Donggala Regency

Interview results from TB Program Holders at the Donggala Regency Health Office Health service facilities in the Donggala Health Center area are quite available, with laboratories and medical personnel who can quickly examine and diagnose TB. However, there are still challenges in the accessibility of services for people in remote areas, especially related to transportation and the limited availability of medical personnel. Efforts to improve facilities and distribution of health workers continue to be carried out to ensure that TB services are accessible to the entire community equally.

The provision of adequate health services is a crucial factor in efforts to control Tuberculosis (TB). In the Donggala Health Center Area, health facilities are available quite well, including laboratories that can perform sputum examinations, molecular rapid tests (TCM), and medical personnel trained in TB diagnosis and treatment. This is in line with the standards set out in the WHO's End TB strategy, which emphasizes the importance of access to rapid and accurate diagnosis to accelerate the detection of TB cases and break the chain of transmission. Although basic facilities are available, there are significant challenges in terms of accessibility of health services for people living in remote areas. This problem includes two main aspects: limited transportation and uneven distribution of health workers. Transportation Challenges and Accessibility of TB Services

Factors that affect the accessibility of health services consist of three main categories: Predisposing factors, such as public knowledge, attitudes, and perceptions of TB. Enabling factors, such as distance to health facilities, transportation costs, and road infrastructure. Need factors, namely the health condition of individuals who need services.

The results of interviews from village midwives in the Donggala Health Center area are the main challenges, especially in terms of transportation. Many remote villages are difficult to reach due to challenging geographical terrain, lack of adequate road infrastructure, and limited public transportation. As a result, TB patients living in remote areas often experience delays in getting a diagnosis and starting treatment. This condition risks increasing the rate of discontinuation of treatment and the uncontrolled spread of TB. Public health workers (cadres) who are trained to conduct initial screening, sputum sampling, and accompany patients in medical compliance. This approach can be applied in Donggala to reduce geographical barriers in accessing TB services.

Management of Countermeasures, as well as social support and community commitment in the management of Tuberculosis Disease so as to reduce the number of TB patients in the Donggala Health Center Area, Donggala Regency¹¹

The results of interviews with TB Program Holders at the Donggala Regency Health Office about TB control management were carried out with a strict supervision and evaluation system. Regular supervision is carried out to ensure that the patient is undergoing treatment properly. In addition, the results of the interview with the Head of the Donggala Health Center explained that social support from families and the community has a great influence on the success of TB patient treatment. The village government also plays a role in supporting this program by providing a budget for education and case tracking. Cross-sectoral collaboration is key to successfully reducing the number of TB patients in this region.

As for the results of interviews with village midwives at the Donggala Health Center, with the efforts that continue to be made by health workers, cadres, and the community, it is hoped that the number of TB patients in the Donggala Health Center area can continue to decrease and improve the overall quality of public health. Pulmonary tuberculosis with resistance is strongly suspected if the Acid Resistant Bacillus (BTA) culture remains positive after 3 months of therapy or the culture returns positive after negative conversion. Several demographic descriptions and past disease history can give a suspicion of drug-resistant MDR TB, namely 1) active TB that has previously received therapy, especially if the therapy given is not in accordance with the standard of therapy; 2) Contact with cases of dual resistance TB; 3) Therapy failure or relapse; 4) Human immunodeficiency virus (HIV) infection; 5) History of hospitalization with MDR TB outbreak. (Ministry of Health RI, 2020b)

The diagnosis of TB resistance depends on the collection and culture of the specimen and should be carried out before therapy is given. If the patient cannot expel sputum, sputum induction is performed and if it still cannot be removed, a bronchoscopy is performed. Sensitivity tests to first- and second-line drugs should be performed at an adequate referral laboratory. (Ministry of Health RI, 2020b)

Detection of drug resistance in the past called conventional methods based on the detection of *M. tuberculosis* growth. Due to the difficulty of some of these methods and the long time to get results, new technologies have recently been proposed. These include phenotypic and genotypic methods. In many cases, genotypic methods in particular have detected rifampicin resistance, since then this method has been considered a marker of resistant TB especially in settings with a high prevalence of resistant TB. Meanwhile, the phenotypic method, on the other hand, is a simpler method and easier to implement in clinical microbiology laboratories on a regular basis.

CONCLUSION

The people in the Donggala Health Center Working Area have a diverse understanding of Tuberculosis (TB). Some communities have become aware of the dangers of TB and the importance of regular treatment.

People in the Donggala Health Center Work Area have a perception that Tuberculosis (TB) is an infectious disease that can be cured with complete treatment for 6 months and prevention efforts such as implementing PHBS.

Health workers have an important role in finding new cases of TB. They conduct active screening by going directly to the community, conducting close contact investigations, and collaborating with health cadres and the village government.

Health service facilities in the Donggala Health Center area are quite available, with laboratories and medical personnel who can quickly conduct TB examinations and diagnoses. Efforts continued by health workers, cadres, and the community are expected to continue to reduce the number of TB patients in the Donggala Health Center area and improve the quality of public health as a whole.

ADVICE

Based on the findings expressed in the research in the Donggala Health Center Working area, it is suggested that the results of this research can be used as a reference and provide information and open the insights of students and educators to become a reference in research and community service to conduct education and socialization or health promotion regarding Tuberculosis Disease Control.

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