
Overview of the Tuberculosis (TB) Case Management Program in Baubau City in 2024

Taswin^{1✉}, Muhammad Fahrin Amrullah², Fitriani³, Wahyuddin², Dahmar⁵, Eky Endriana Amiruddin⁶

¹ Concentration in Health Policy Administration, Faculty of Public Health, Dayanu Ikhsanuddin University

² Concentration in Epidemiology, Faculty of Public Health, Dayanu Ikhsanuddin University

³ Concentration in Health Policy Administration, Faculty of Public Health, Dayanu Ikhsanuddin University

⁴ Concentration in Health Policy Administration, Faculty of Public Health, Dayanu Ikhsanuddin University

⁵ Concentration in Health Promotion, Faculty of Public Health, Dayanu Ikhsanuddin University

⁶ Concentration in Health Policy Administration, Faculty of Public Health, Dayanu Ikhsanuddin University

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ABSTRACT

Based on data from the Baubau City Health Service, in 2021 there were 334 cases and in 2022 there were 532 cases. The Case Notification Rate (CNR) for all TB cases in Baubau City is 138 per 100,000 population. This shows that among 100,000 residents there were 138 new patients found. The aim of the research is to find out an overview of the implementation of the Tuberculosis Case Management Program in Baubau City. The type of research used is quantitative with a descriptive approach. The entire population used as a sample was 35 people. The sampling technique uses total sampling. The research was conducted in May-June 2024. Data analysis was carried out univariately using SPSS. The research results showed that the human resource variable was sufficient for 30 respondents (85.7%) and less for 5 respondents (14.3%). The variable of adequate drug availability was 22 respondents (62.9%) and 13 respondents (37.1%) were lacking. The variables of sufficient facilities and infrastructure were 27 respondents (77.1%) and 8 respondents (22.9%) were lacking. The conclusion in this research is that Human Resources in the program for handling TB cases are quite good, namely 85.7%, Availability of Medicines is quite good, namely 62.9%, and Facilities and Infrastructure in the program for handling TB cases are quite good, namely 77.1%.

Keywords: TB, human resources, drug, infrastructure

✉Correspondence

E-mail: taswin@unidayan.ac.id

INTRODUCTION

Tuberculosis (tuberculosis) is an infectious disease caused by *Mycobacterium tuberculosis*. Tuberculosis is still one of the health problems for people in the world. Globally, tuberculosis cases increased to 6.4 million, comparable to 64% of tuberculosis incidence (10.0 million). Tuberculosis remains the 10th leading cause of death in the world and tuberculosis deaths globally are estimated at 1.3 million patients. Indonesia is

one of the countries with the largest number of tuberculosis patients among 8 countries, especially India (27%), China (9%), Indonesia (8%), Philippines (6%), Pakistan (5%), Nigeria (4%), Bangladesh (4%) and South Africa (3%)¹.

Pulmonary TB is a disease caused by the *Mycobacterium Tuberculosis Humanis* type of bacteria. This bacterium has a rod shape and is very small in size, which is 1-4 micrometers. *Mycobacterium tuberculosis* is aerobic or can only live in areas that have oxy content. Indonesia has the second largest number of TB patients in the world after India. Internationally, it is estimated that there will be 10 million people with TB in 2019. Although there has been a decrease in new TB cases, it is not fast enough to achieve the goal of the 2020 TB END, which is a 20% reduction in TB cases between 2015 – 2020. Between 2015 and 2019, the decrease in TB cases was only 9% (Darmin et al., 2022). In Indonesia in 2021 from a population of 274,000,000, the average total incidence of TB per 100,000 population per year 2021 was 354, the average incidence of TB with HIV positive was 8.1, the average death rate due to TB with HIV positive was 2.4 and the death rate due to TB without HIV was 52 cases².

Based on research (Arnas & Zulkarnaini, 2021), one of the variables that hinders the running of the development program for the Elderly to Serve TB Patients (JELITA TB) is the absence of human resources who run the JELITA TB development program. The absence of the quantity of health center officers in the field causes an imbalance in the administration given to the regions. There are still some people who are not included in the rundown of thought TB, but have TB side effects and require administration of JELITA TB Advancement. This community group does not get administration from the health center officer because the health center officer does not visit the homes of residents who have TB side effects. In this way, the implementation of JELITA TBC development has not been successful and proficient³.

The accessibility of anti-tuberculosis drugs (OAT) in health centers is an important part of TB therapy outcomes, which can be evaluated from the results of sputum changes at the end of treatment. OAT must be accessible in the health center because the time of use of OAT must be consistent, if the patient does not consume OAT, then the patient is considered non-compliant in treatment, which will be related to the unsuccessful treatment of TB⁴. Judging from the results of the examination after treatment (Hutama, 2019) shows that most of the foundation officers in respondents with aspiration TB are quite good or satisfied, 66% to be exact. However, there is one point of view where the foundation office is not satisfied enough. Especially the secret beds of pulmonary TB respondents where there are still 62% of pulmonary TB respondents who do not provide private beds⁵.

In addition to human resources and the availability of drugs, the availability of facilities and infrastructure is one of the factors that can affect the results of pulmonary TB control program activities. Facilities are everything that is used as a tool to achieve certain goals, while infrastructure is everything that is used as support in carrying out an activity. These facilities must exist in each health center and in good condition or not damaged, complete, quality and sufficient quantity so that they can help officers in carrying out their work properly⁶.

Based on this background, the author intends to conduct a study that aims to find out the overview of the implementation of the Tuberculosis (TB) case management program in Baubau City.

METHOD

The type of research used is quantitative using a descriptive approach. Where this descriptive research aims to find out an overview of the implementation of the tuberculosis case management program in Baubau City. The location in this study was carried out in the Baubau City area (all health centers in Baubau City) with consideration to obtain valid data according to what is to be researched. This research has been conducted in May-June 2024. The population is all TB programmers at the Health Center and TB monitors at the Baubau City Health Office which totals 35 people. The sampling technique in this study is Total Sampling. Total sampling is a sampling technique where the number of population is the number of samples studied. The reason for taking the total sampling is because, according to Sugiyono, the number of populations that are less than 100 is used as a research sample. The types of data in this study are primary data and secondary data. Primary data is data obtained directly by researchers using questionnaires during interviews. Secondary data was obtained from the office or agency related to this study, namely the Baubau City Health Office. The research variables are Human Resources, Availability of Drugs and Infrastructure/Computerized data processing using excel and SPSS applications. The analysis used in this study is a univariate analysis where this analysis functions to see the overview of the implementation of the tuberculosis case management program in the city of Baubau when entering the research results.

RESULTS AND DISCUSSIONS

The characteristics of the respondents involved in this study are illustrated in table 1 below:

Table 1. Distribution of Frequency of Respondents by Age, and Work in Managing the Tuberculosis (TB) Case Program in Baubau City in 2024

Variable	N	%
Age (years)		
26 – 35	10	28,6
36 – 45	19	54,3
46 – 55	6	17,1
Job		
D3	11	31,4
S1	24	68,9

Source: Primary Data, 2024

The descriptive characteristics of the subjects analyzed are shown in Table 1 which shows that the most age group of subjects is 36-45 years old with a total of 19 respondents (54.3%), the age of respondents 36-45 years with a total of 19 respondents (28.6%) and the age of 46-55 years with a total of 6 respondents (17.1%). The last education with the highest frequency was respondents with the last education S1 with a total of 24 respondents (68.6%) and D3 with a total of 11 respondents (31.4%).

Table 2. Distribution of Respondent Frequency Based on Human Resources, Availability of Drugs, Facilities and Infrastructure in Managing the Tuberculosis (TB) Case Program in Baubau City in 2024

Variable	N	%
Insufficient Human Resources		
Less Than	5	14,3
	30	85,7
Insufficient Availability of Drugs		
Less Than	13	37,1
	22	62,9
Insufficient Facilities and Infrastructure		
Less Than	8	22,9
	27	77,1

Source: Primary Data, 2024

Based on table 2, it provides an overview of human resources, the availability of drugs and facilities and infrastructure. Human Resources, are personnel who carry out the management of tuberculosis case management programs in the city of Baubau (doctors, nurses, TB programmers, laboratory staff, TB Wasor Availability of drugs, availability and number of types of drugs in the implementation of the tuberculosis case management program in Baubau City. Facilities and Infrastructure, namely the availability of TB equipment (microscopes, sputum pots, PPE, facilities and infrastructure for TB examination. The results showed that the highest frequency was sufficient human resources as many as 30 respondents (85.7%) and the lowest frequency was human resources with insufficient human resources as many as 5 respondents (14.3%). Drug availability variables, the highest frequency was the availability of sufficient drugs as many as 22 respondents (62.9%) and the lowest frequency was the availability of insufficient drugs as many as 13 respondents (37.1%). And the variables of facilities and infrastructure, the most frequency was adequate facilities and infrastructure as many as 27 respondents (77.1%) and the lowest frequency was facilities and infrastructure that lacked as many as 8 respondents (22.9%).

The results of this study provide a comprehensive overview of the implementation of the tuberculosis case management program. This research will provide an overview of human resources, the availability of drugs and facilities and infrastructure. Human resources or manpower are important and main resources in implementing a program to achieve the goals that have been set. Where without the role of human resources or manpower, a program will not be able to run or be implemented in accordance with the goals to be achieved. Human resources are the main key in determining the success of the implementation of organizational activities and are one of the important components in program management⁷.

Based on table 2 of the distribution of answers to the human resource variable respondents, the highest frequency is a sufficient human resource sample of 30 respondents (85.7%), this is because several Puskesmas in Baubau City already have good resources in the form of TB programmers for each Puskesmas while the lowest frequency is human resources which is lacking as many as 5 respondents (14.3%), this is because there are also several Puskesmas that have programmers who are not only handling TB cases but also cases of Leprosy and HIV/AIDS due to a shortage of health workers so that they handle more than one case. Several

things are caused by the still unfulfilled human resources and facilities, unclear staff authority, and the necessary SOPs that are still incomplete. This is a concern for program implementers in evaluating program implementation.

The logistics needs in the 2016 TB Control Regulation consist of Anti-Tuberculosis Drug Logistics (OAT) and Non-OAT logistics. Anti-Tuberculosis Drug Logistics (OAT) is all types of OAT used to treat TB patients, both Sensitive TB and Drug-Resistant TB (TB-RO). Non-OAT Logistics is all types of medical materials and devices other than OAT that are used to support the management of TB patients⁸.

Based on table 2 of the distribution of respondents' answers to the drug availability variable, the highest frequency is the availability of sufficient drugs as many as 22 respondents (62.9%), this is because the Puskesmas already have sufficient stock of drugs from the Health Office so that they do not experience a shortage or vacancy of drugs, while the lowest frequency is the availability of drugs that are lacking as many as 13 respondents (37.1%), this is because some Puskesmas have to borrow TB drugs from other Puskesmas that have excessive drug stocks, after the drug has been obtained from the Health Office, it will only be returned to the Health Center that has provided the TB drug for use.

Based on the research conducted, drug fulfillment is available well even though sometimes there is a drug shortage at the Health Office so that some Puskesmas have to borrow TB drugs from other Puskesmas that have excessive drug stocks, after the drugs have been obtained from the Health Office, they will only be returned to the Puskesmas that have given their TB drugs for use.

OAT needs are provided by the City Health Office, then will be distributed to the Puskesmas according to their needs. Anti-Tuberculosis Drugs (OAT) at the Health Center Regulation of the Ministry of Health of the Republic of Indonesia No.67 of 2016 concerning Pulmonary TB Control states that the Central Government and Regional Governments are responsible for the availability of drugs and health supplies in the implementation of TB Control⁹.

The high number of TB cases is also due to the adherence to taking drugs for TB patients and also the demographics of TB patients. Medication adherence, namely whether or not to take these medications, is important because non-compliance with medication causes resistance problems. Because all the procedures that have been done well will be in vain, if they are not accompanied by a good evaluation system. Many TB patients come from outside the city of Baubau, but due to the distance of residence and work that makes TB patients to live and settle in Baubau City.

In addition to human resources, facilities and infrastructure are also needed in the implementation of a program. Facilities are everything that is used as a tool to achieve a certain goal, while infrastructure is everything that is used as support in carrying out an activity. The availability of facilities or facilities and infrastructure at the Puskesmas in the implementation of the discovery of pulmonary TB cases is quite adequate and in accordance with the provisions of the Indonesian Minister of Health Regulation No. 67 of 2016. These facilities and infrastructure include DOTS rooms, laboratories, supporting forms such as suspected TB registration forms, sputum examination forms, TB laboratory registers for microscopic and

TCM health facilities, and TB contact registers, laboratory tools and materials according to standards such as sputum pots, preparation glass, skewers, preparation glass storage boxes, and spiritus lamps¹⁰.

Based on table 2 of the distribution of respondent answers to the variables of facilities and infrastructure, the highest frequency is sufficient facilities and infrastructure as many as 27 respondents (77.1%), this is because the Puskesmas already has a laboratory that has tools to check TB samples while the lowest frequency is facilities and infrastructure that is lacking as many as 8 respondents (22.9%), this is because there are still several Puskesmas that do not have laboratories to check patient sputum samples, so that the sample is sent to other health centers that have laboratories for checking TB samples, in addition to other health centers, usually the patient's sputum samples are also sent to the hospital for sample checks to find out positive or negative TB.

Facilities and Infrastructure are supporting factors for health workers in running the DOTS program at Puskesmas. In the Pulmonary TB program, facilities are everything that is used as a tool to achieve certain goals, while infrastructure is everything that is used as support in carrying out an activity, because in the Pulmonary TB program it is inseparable from the availability of facilities and infrastructure to support the success of the program¹.

The facilities and infrastructure at the Puskesmas include the DOTS Poly Room, the room where sputum is collected, the sputum pot, the laboratory, the microscope, the merchant gel, the reagent, the glass object, the OAT (Anti-Tuberculosis Drug), and the TB form. For the condition of 79 facilities and infrastructure is still good, but the DOTS Poly room is too small so that the lighting and air circulation are not good¹¹.

Overall, the results of this study show the need for joint efforts in carrying out tuberculosis case management programs, both through human resources, the availability of drugs, and facilities and infrastructure. In addition, the role of the family is also needed. The role of the family has a considerable role in the recovery rate of the sufferer. There are several kinds of roles of snakes so that there can be an increase in the success of pulmonary tuberculosis treatment, one of which is by providing assistance to patients to receive retreatment at the Health Center¹².

CONCLUSION

Based on the results of the research on the Overview of the Tuberculosis (TB) Case Management Program in Baubau City in 2024, it can be concluded that Human Resources in Puksemas in Baubau City in the management of TB case programs are quite good, namely 85.7% of doctors, nurses, TB officers, and laboratory analysts are available. There is still a lack of human resources because there are still several health centers that have programmers who handle more than one case. The availability of drugs in Puksemas in Baubau City in overcoming TB case programs is quite good, which is 62.9%, several health centers already have sufficient drug stocks so that there is no shortage of drug stock. The lack of availability of drugs is usually due to running out of drugs from the Health Office so that they have to take or borrow from other health centers that have TB drug stocks. Facilities and Infrastructure in Puksemas throughout Baubau City in overcoming TB case programs are quite good, which is 77.1%, most of them already have quite good facilities

and infrastructure, but there are still some Puskesmas that have facilities and infrastructure that are lacking, this is because the Puskesmas do not have a special TB laboratory so the samples taken must be taken to other Puskesmas or Hospitals for checking.

The suggestions that the author can give are to improve existing human resources such as doctors, nurses and TB personnel and always be given TB-related training, it is hoped that the Baubau City Health Office will continue to pay attention to the availability of TB drugs so that there is no drug shortage in several health centers in Baubau City, further improved or provided existing facilities and infrastructure such as having a special TB room and a special laboratory for checking TB samples.

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